# Croonian Lectures

ON

# SOME POINTS IN THE PATHOLOGY OF RHEUMATISM, GOUT, AND DIABETES.

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## LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—The metabolic function of the liver may be interfered with in diverse ways. From the stimulating effect of food during digestion in the stomach or duodenum two things should take place in the liver—dilatation of the vessels of the gland and certain changes in the gland cells; results which may be compared to those obtained from the submaxillary gland by stimulating the chorda tympani, the metabolic events being dependent upon the absorption and transformation of certain constituents of the blood by the hepatic cells, and this action controlled by the nerve fibres in connexion with these cells. But these two processes, vascular dilatation and metabolic activity, are independent of each other. The vessels may dilate, but if the terminal portions of the nerves of the secreting cells are paralysed, the blood will pass through the gland more or less unchanged; and the same effect will be produced by paralysing the nerve either at its central origin or along its course. We know that, as regards the innervation of the tongue and the sense of taste, there are nerve filaments which respond only to particular kinds of stimuli; so it is not unreasonable to assume that, distributed to the liver cells, there are various nerve filaments, one set regulating the transformation of saccharine, the other the nitrogenous elements conveyed to the cells by the portal circulation; and if either set be paralysed, we should have the metabolism of the corresponding elements interfered with. How far the secretory power of the liver cells is influenced by the vagus is not very clear; but the vessels are under the control of the dominant vaso-motor centre, which is located in the medulla oblongata, where also we have the nucleus of the vagus. If, then, there is a want of harmony between the vascular dilatation and the action of the liver cells—if blood containing the products of digestion is passing through the liver in larger quantity than the cells can act upon (whether that inaction be due to exhaustion of the cells themselves or to exhaustion of the secretory nerves in connexion with them), then there will be imperfect metabolism, and consequently the formation of uric acid in the manner I have described. So far as the imperfect metabolism of the saccharine elements is concerned, we have illustrations of what I mean in the results which take place from the "diabetic puncture," or, as shown by Dr. Pavy, from section of the sympathetic filaments ascending from the superior thoracic ganglion, or from the removal of the superior cervical ganglion.

There may be also imperfect metabolism of nitrogenous material, in another way—viz., if too much is introduced into the portal vein from the alimentary canal. The portion then which is least readily acted upon (viz., the glycocine) will not be transformed, and so the formation of uric acid is promoted. We see the same thing constantly even when the liver is in a healthy and normal condition, if it has too much work imposed upon it—that is, if more nitrogenous material is introduced into the portal vein than can be transformed in the gland. And so an occasional indulgence at the table is very generally succeeded by the appearance of urates in the urine. If the liver cells are already exhausted by long-continued over-stimulation, with how much greater difficulty will the perfect metabolism of nitrogenous food be effected!

In either of these modes, then, arising from defective changes in the liver, uric acid may be formed in excess, and then eliminated, or circulate as a poison in the blood. Why in some cases is it eliminated as urates or as uric acid in the urine or as renal or vesical calculi, without any arthritic symptoms? Why in others does it develop the arthritic symptoms to which we give the name of gout?

If the kidneys are sound, as in the majority of people below middle age, the uric acid, unless in large excess, will be excreted directly it is formed, and there is little overflow of the product into the circulation; if the urine has a neutral reaction, it will appear as urates of ammonia, soda, &c.; if, however, other acids, such as lactic acid, are formed at the same time and eliminated by the kidneys, the base will be separated, and uric acid, as such, excreted, and, according to the amount, will give rise to gravel or renal or vesical calculi. But gradually the kidneys may become weakened or diseased, and then, as the blood passes through them, the acid is formed, and a portion passes on and is not eliminated. Being an abnormal product, we are making no violent assumption in saying that it will act as an irritant upon some portion of the nervous system. We have seen how distinctly the similar body caffein acts as a stimulant to certain portions of the nervous system. According, therefore, to the susceptibility or sensitiveness of different portions will be the outward manifestations of this irritation. Such a susceptibility or sensitiveness of the nervous system is constantly observed in different individuals. In some the nerve of smell is much more easily stimulated by certain odours than in others. In some, again, the nerves of taste recognise differences in flavour which are totally imperceptible to others. In children, too, and in persons in enfeebled health, how readily is pyrexia developed by irritation of the nerves of the intestine or the digestive glands from improper diet!

If the nucleus of the vagus is the sensitive spot, then gastric uneasiness, asthma, or cardiac irregularities might be developed.

Dr. Buzzard has suggested that in locomotor ataxia "the frequency of the coincidence of gastric crises with the osseous lesions gives reasonable ground for the hypothesis that the latter may depend upon an invasion of a part of the medulla oblongata closely adjacent to the roots of the vagi. It is only as a working hypothesis that I make the suggestion. Is there something which we may call provisionally a trophic centre for the osseous and articulatory system in the immediate neighbourhood of the roots of the vagi? As I have suggested on a previous occasion, the discovery of such a centre would materially help us to explain the remarkable association of cardiac complications with the joint-affection of acute rheumatism, as well as the sweating characteristic of this disease, and the occasional hyperpyrexia which occurs in it. And it might also help to throw light upon the obscure pathology of arthritis deformans."[1] In a subsequent paper he further adds: "In a communication brought before the Pathological Society of London, in February, 1880 (Transactions of the Pathological Society, 1880), I made the suggestion that the gastric crises depend upon irritation of the nuclei of the vagus by sclerosis. At that time I had no anatomical evidence to offer in support of the hypothesis, which was based upon the paroxysmal character of the attacks, so completely in accord with that characterising the attacks of lightning pains. It appeared evident to me that if sclerosis, which, when it attacked nerves of common sensation, produced pain, came to invade the nucleus of the vagus, it might be expected to give rise to symptoms like those of the gastric crises. During the meeting of the International Medical Congress in London, Professor Pierret, of Lyons, has shown me sections of the medulla oblongata which he has lately made from a case of tabes with gastric crises. I was greatly interested in his demonstration that the fasciculus gracilis in immediate relation with the nuclei of the vagus exhibited distinct sclerosis."[2]

Professor Roy and Dr. Graham Brown have recently stated[3] that "in the curarised dog stimulation of one uncut vagus with an induced current causes contraction of the bronchi of both lungs, the contraction being usually powerful, but to this there are exceptions. Section of one vagus usually causes a marked expansion of the bronchi of the correspond-

[1] On the Affection of Bones and Joints in Locomotor Ataxy, and its Association with Gastric Crises, by T. Buzzard, M.D. British Medical Journal, 1881, vol. i., p. 333.

[2] Transactions of the International Medical Congress, 1881, vol. ii., p. 37.

[3] Proceedings of the Physiological Society, May 10th, 1883.

ing lung, which may be preceded by a slight temporary contraction, apparently due to the stimulus of the section. Stimulation of the peripheral end of one cut vagus always causes a much more powerful contraction of the bronchi of both lungs than when the uncut nerve is stimulated with the same strength of induced current," and that these and other experiments enable them to understand how asthma may be produced.

If portions of the spinal cord, in connexion with the nerves distributed to the joints are more than usually sensitive, this sensitiveness or susceptibility being either inherited or acquired, then stimulation or irritation of these portions would lead to changes in the respective joints similar to those which result from nerve wounds or from injuries to the spine. At first the uric acid might produce little effect, but with repeated or constant stimulation, these portions of the spinal cord would become more susceptible to the action of the morbid product, and so nutritive changes or inflammation would be developed in the joints connected therewith. Suppose for a moment that the portion of the nervous system most susceptible to the action of the uric acid is the vaso-motor centre, the dominating portion of which, as we know, is located in the medulla oblongata, what effects should we expect to follow? The most powerful vaso-motor nerves are those which act upon the bloodvessels of peripheral parts—e.g., the toes, fingers, and ears,—while those that act upon central parts seem to be less active;[4] consequently we should expect the toes and fingers to be first affected, and just as by stimulating the sympathetic nerve of the sublingual gland we have contraction of the vessels and altered secretion from the gland, so in the toes and fingers we should have contraction of the vessels and the metabolism of the parts more or less modified. In addition to contraction of the vessels caused by impulses affecting the blood-supply, there are impulses affecting directly the activity of the protoplasm. The constructive metabolism about the joints is stimulated, whilst the blood-supply and destructive metabolism are lessened, and so there is increased development or growth about the part. Further, the blood which goes to the part contains sodium urate; consequently this is deposited, along with the other substances, in the metabolism or inflammatory changes which take place in the tissues around the affected part.

But whilst the vaso-motor centres may be directly stimulated by the irritant, they may be also stimulated by irritation of the efferent or sensory nerves. Stimulation of the centripetal end of a divided efferent nerve causes increased blood-pressure. Have we not here, then, an explanation of the phenomena of a gouty paroxysm? The uric acid stimulating both the sensory nerve, and through it or independently the more active portion of the vaso-motor centre, causes pain in the joint and contraction of the vessels; the pain increases with the continued stimulation, but after a time the nerve is exhausted or paralysed, as we know is the case from continued stimulation of other nerves—as, for instance, in tetanising a muscle. The vessels now dilate, destructive metabolism is stimulated, there is relief from pain, and with the relief another indication of paralysis of the sympathetic shows itself—viz., more or less perspiration. A similar explanation may, I think, be given of the mode in which arthritic symptoms result sometimes from nerve wounds. The wound may be such that the sensory or efferent fibres in the nerve are injured, whilst the vaso-motor and other fibres are intact. From the irritation set up either by the cicatrix or otherwise, the sensory fibres, and through them the vaso-motor centres, are stimulated in the manner I have just described as occurring in gout, but as uric acid is not the irritant and is not circulating in excess in the blood, there is no deposit of this substance in the metabolic changes taking place in the joint. And, further, if irritative inflammatory or degenerative changes take place in the spinal cord anywhere along the course of the sensory nerves, by which the sensory nerves are stimulated, this would lead to stimulation of the corresponding portion of the vaso-motor centres, and so to the development of those symptoms which we know under the name of arthritis deformans, or rheumatoid arthritis. In this way we can easily understand how dysmenorrhœa may be the starting-point of this joint affection—a clinical fact which has been recorded by Dr. Ord.

Among the peculiar local affections in connexion with gout, we have, as pointed out by Dr. Graves, congestion of the lobes of the ear; a singular affection of the teeth, which consists in an insuperable desire to grind them; the occurrence of tic douloureux of several branches of the fifth pair; and daily paroxysms of intense heat of the nose, which continues for three or four hours, the part becoming first of a bright and then of a purplish-red colour. All these symptoms may, I think, be ascribed to irritation in that portion of the nervous system where the roots of the fifth nerve and the vaso-motor centre are in close proximity—namely, in the medulla oblongata. To this spot I shall have to refer again.

But independently of any functional or organic change in the liver or its nervous connexions, there is a third way in which uric acid may be developed, and that is from the excessive formation of glycocine in the muscular tissue, in the manner I have already referred to as the result of what is commonly called a feverish cold. This glycocine, passing in the blood to some glandular organ—the liver or spleen it may be,—is there conjugated into hydantoin, and afterwards further transformed into uric acid. If the nervous system and the kidneys are sound, this product is eliminated by the kidneys, and the attack subsides. But suppose the individual who is exposed to damp or cold has been previously reduced in strength, is tired out or exhausted—that is to say, his vaso-motor system or some portion of it is in a weak state, the weakness either developed from bodily or mental exhaustion, or, it may be, inherited. Then following the chill there would be the same effects produced as I have described when referring to the effect of cold applied to the skin, but the vaso-motor centre being enfeebled, the nerves regulating the vessels of the muscular area would be more completely paralysed by the external cold, and when reaction, induced in some degree by the lactic acid, sets in on the surface of the skin, there would be less power in the muscular nerves to recover from that paralysed condition; and more than this, so far as these vaso-motor elements are concerned, the morbid products are still circulating in the system, and the vaso-motor centre not having recovered itself, the continued stimulation by glycocine or uric acid on that exhausted centre no longer excites it, but gives rise to further exhaustion, and consequent further dilatation of the vessels in the vascular area connected with it, and more complete falling asunder of the molecular elements of the tissue.

Let me illustrate what I mean by reference to the sciatic nerve.

"Division of the sciatic nerve of a mammal causes dilatation of the small arteries of the foot and leg. Where the condition of the circulation can be readily examined—as, for instance, in the hairless balls of the toes, especially when these are not pigmented—the vessels are to be seen dilated and injected; and a thermometer placed between the toes shows a rise of temperature amounting, it may be, to several degrees."[5] "But the dilatation so caused after a few days disappears; the foot on the side on which the nerve was divided becomes not only as cool and pale, but frequently cooler and paler than the foot on the sound side. If the peripheral portion of the divided nerve be stimulated with an interrupted current immediately or very shortly after division, the dilatation due to the division gives place to constriction: the sciatic nerve acts then quite like the cervical sympathetic, except, perhaps, that this artificial constriction cannot be maintained for so long a time, and is very apt to be followed by increased dilatation. If, however, the stimulation be deferred for some days, until the dilatation has given place to a returning constriction, the effect is not constriction but dilatation; the nerve then acts, so far as its vaso-motor fibres are concerned, like a muscular nerve, and not like the cervical sympathetic."[6] So also with regard to the mylo-hyoid muscle. Section of the nerve produces dilatation, but the dilatation is transient. The vessels speedily return to their former calibre, and then it is found that stimulation, of whatever strength, of the peripheral portion of the divided nerve brings about, not constriction, but dilatation. If, then, the vaso-motor fibres of the muscular nerves have been weakened, the result would be that the normal stimulating effect of uric acid on the vaso-motor elements connected with motor nerves generally would be transformed into a depressing or paralysing effect; the vessels of the muscular area would be still further dilated; the molecular constituents of the tissue would be loosened; hydration and oxidation would go on causing fresh development of heat; there would

[4] Landois and Stirling: Physiology, 1885, p. 893.

[5] Foster's Physiology, fourth edition, p. 199. [6] Ibid., p. 209.

be the continuous formation of glycocine and lactic acid, the glycocine giving rise to uric acid, which accumulating in the system, produces its deleterious effect in modifying the function of the nervous system; the lactic acid dilating the smaller arteries[7] and stimulating the sweat centres, passing off in part by the skin. With increased stimulation of the paralysed centre of the muscular nerves complete dilatation of the vessels in the muscular area will take place; the molecular constituents of the tissue now fall completely asunder, the $CH_2\begin{cases}OH\\CN\end{cases}$ and $C_2H_4\begin{cases}OH\\CN\end{cases}$ being entirely hydrated into glycellic acid and lactic acid with the rapid production of heat, and the heat is further developed by the ready oxidation of these products. In this way to some extent the so-called hyper-pyrexia of rheumatic fever is produced.

But whilst uric acid affects in this way the vaso-motor fibres of muscular nerves, it also affects the nutrition of the joints. I have endeavoured to explain how it does so in gout, producing first of all contraction of the arteries and constructive metabolism by the stimulating effect of the poison on the sensitive nerve centres, followed by dilatation of the arteries and destructive metabolism when the centres are exhausted. In rheumatism, however, the dominant centre is exhausted to begin with, and so we have destructive metabolism and vascular dilatation, preceded by very slight, if any, constructive metabolism and contraction of the vessels. In gout the uric acid is the result of modified innervation of the liver or exhaustion of the hepatic cells, and so there is non-transformation of the glycocine and the consequent formation of uric acid. In rheumatism the glycocine results from changes in the vascular area and in the metabolism of the muscles, and along with its formation there is also the formation of lactic acid by hydration, both from the cyanalcohol $CH_2 . CH_2\begin{cases}OH\\CN\end{cases}$ and the cyanalcohol $CH_3 . CH\begin{cases}OH\\CN\end{cases}$; the nutrition of the joint is modified, as above described, by the uric acid, but the nutrition is further modified by the presence of the lactic acid in the blood, producing dilatation of the arterioles, more particularly of those in the cutaneous area. In this manner, then, I venture to suggest, are the characteristic changes about the joints in acute rheumatism developed.

Again, if the dominant vaso-motor centre is in an enfeebled or exhausted state, and irritative, inflammatory, or other changes take place in the spinal cord along the course of or adjacent to the sensory nerves, by which these nerves are stimulated, we should have, quite independently of the presence of uric acid in the blood, destructive metabolism and vascular dilatation about the joints, the extreme effects of which are seen in Charcot's disease accompanying locomotor ataxia. Regarded in this light, Charcot's disease bears the same relationship to arthritis deformans that rheumatism does to gout.

In a similar way, also, I would explain the joint affection known as gonorrhœal rheumatism. Here we have prolonged irritation of the sensory nerves of the urethra, acting through an enfeebled or weakened vaso-motor centre, and in this way the nutrition of the joints in connexion with that centre is modified.

I have referred to that portion of the sensory tract in the medulla oblongata in the neighbourhood of the nucleus of the vagus, the root of the fifth nerve, and the dominant vaso-motor centre, as the part which controls the nutrition of the joints, and which is more particularly affected by external cold. The following facts give support to this view and can be explained on the same hypothesis.

Cases occur in which the solitary local affection associated with a feverish cold is an outbreak of herpes on the lips, nose, or buccal mucous membrane, the so-called "febris herpetica." "We find a sharp attack of fever in a child or young person without any local cause; we expect the onset of some serious disease, but our anxiety is soon allayed: in a few days there unexpectedly appears on the lips, nose, or cheeks, a closely-packed group of vesicles, which at once removes our uncertainty and shows us that we have to do, not with the early stage of one of the more serious fevers, but with a feverish cold which will end favourably in a day or two."[8] Here we have, as the result of "catching cold," disorder of nutrition showing itself in parts supplied by branches of the fifth nerve—viz., the labial and nasal branches of the superior maxillary nerve.

Rheumatism not infrequently after a short interval follows tonsillitis. Attention was prominently called to this a few years ago by Dr. Kingston Fowler, and I have seen several instances where it has occurred. Now we may assume either that the condition of the central nervous system in the individuals so affected is such that slight injurious influences, such as the effect of a slight chill or exposure to cold acting upon the central nervous system, will produce an attack of quinsy, whereas more severe injurious influences will cause rheumatic fever; or we may assume that in quinsy the continued irritation of the sensory nerves distributed to the tonsils produces exhaustion of some portion of the dominant vaso-motor centre, and as in quinsy uric acid is largely developed, this acting on the enfeebled centre exhausts it still more and develops the arthritic symptoms of rheumatism in the manner I have described. Either hypothesis will illustrate my argument. The tonsillar nerves are derived from the fifth nerve—the middle descending branch from Meckel's ganglion—and from the glosso-pharyngeal portion of the eighth nerve. This branch of the fifth, to which I have referred, is derived from the larger root of the nerve, which may be traced back to the lateral tract of the medulla oblongata immediately behind the olivary body, and is connected with the grey nucleus at the back part of the medulla, between the fasciculi teretes and the restiform columns. The deep origin of the glosso-pharyngeal may be traced through the fasciculi of the lateral tract to a nucleus of grey matter at the lower part of the floor of the fourth ventricle, external to the fasciculi teretes. Both these nerves receive filaments from the superior cervical ganglion of the sympathetic.

The occurrence of arthritis in the course of hemiplegia, a point to which I referred in my second lecture,[9] would at first sight appear antagonistic to the theory which ascribed the joint symptoms to neurotic changes in the medulla oblongata. But it only requires a little reflection to show that it gives the strongest support to the theory. Following apoplexy there is descending sclerosis of the lateral columns, which proceeds slowly. When it shows itself in the medulla, irritation may be set up around the degenerating portion, and this, extending to the grey matter and anterior cornua, may set up the arthritic symptoms, which sometimes show themselves in from fifteen days to a month after the apoplectic seizure.

As regards megrim, Dr. Edward Liveing[10] writes: "There can be no question, then, I think, as to the frequent connexion of megrim, whether in its blind, sick, or simply hemicranial forms, with a gouty diathesis and its occasional replacement by fits of regular gout." Some years ago I endeavoured to prove[11] that megrim was due to vaso-motor disturbance—to uncontrolled action, or as I should now say to stimulation of certain branches running from the superior cervical ganglion of the sympathetic followed by exhaustion. Dr. Haig in a recent number of the *Practitioner*[12] asks the question: "May not excess of uric acid in the blood cause such vaso-motor irritation?" Certainly, and in persons who are subject to megrim, whose sympathetic ganglia have this sensitive constitution, the causes which will lead to the formation of uric acid in the system will with tolerable certainty develop an attack of this particular disorder.

Again, with regard to chorea. If the vaso-motor fibres proceeding from the upper cervical ganglion to form the carotid plexus have through prolonged stimulation become exhausted or weakened, there would be, as the result of that exhaustion, vascular dilatation and perivascular change in the track of the middle cerebral artery. But there would also be nutritive changes in the nerve cells of the brain and exhaustion of their metabolic powers. We should, in fact, have a similar condition produced to that of the submaxillary gland when the chorda tympani is stimulated after the injection of atropine, and, *as far as the nerve cells are concerned*, the same result would be produced as ensues from embolism. Their coördinating action would be paralysed in both cases, and such changes would produce the incoördinated movements of chorea. Nor is it difficult to

[7] Gaskell: Journal of Physiology, vol. iii., p. 18.
[8] Ziemssen's Encyclop., vol. xvi., p. 241. London, 1877.
[9] THE LANCET, April 10th, page 675.
[10] On Megrim and Sick-headache, 1873, pp. 404, 405.
[11] On Nervous or Sick-headache. Cambridge, 1878.
[12] March, 1886, p. 181.

suppose that sudden shock would give rise both to vaso-motor paralysis and to inhibition of the assimilating power of the nerve cells.. Dr. Dickinson has made out very clearly that it is in the tract of the middle cerebral artery and in the posterior and lateral parts of the grey matter and in the upper portions of the cord that vascular dilatation and perivascular change take place both in chorea and diabetes, and I venture to suggest that they are induced in the manner I have indicated.

Will the theory I have here advanced offer any explanation of the shifting character of the rheumatic affection? My application of the theory is as follows: Vaso-motor centres are distributed throughout the whole spinal axis. "They can be excited reflexly, but they are also controlled by the dominating centre in the medulla oblongata."[13] "Now this *general* vaso-motor centre in the medulla oblongata is really a *complex composite centre* consisting of a *number* of closely aggregated centres, each of which presides over a particular vascular area."[14] Some of the nerve cells or some portions of this dominating centre may be more readily exhausted by the continued stimulation of an irritant circulating in the blood than the others, and after the development of the irritant (uric acid) in the system it will of course produce exhaustion first in these particular cells and in the subsidiary ganglia in connexion with them, and so lead to dilatation in the vascular area directly under their control. The other cells in the dominating centre and the subsidiary ganglia in connexion with them, possessing a healthy tone, will be stimulated to action in the normal manner and contraction will take place in the vascular areas connected with them. This action itself would have the effect of driving more blood to the paralysed vascular area and intensifying the symptoms there. But with continued stimulation of these healthy centres, exhaustion will sooner or later be induced; further stimulation increases the exhaustion, and then dilatation of the vessels under their control will be induced; with this dilatation in a new area, the amount of blood in the parts primarily affected will be lessened, and simultaneously will the symptoms which were associated with this increased blood-supply be modified or lessened.

If at any time a joint has suffered injury in any way, this joint will be more sensitive than natural, perhaps more easily fatigued, and we can readily understand that this condition must be associated with some change in that part of the central nervous system which controls the nutrition and sensation in the joint; that this spot in the central nervous system will be more sensitive, more easily acted upon by irritating causes than other parts; that by the irritation the nerve cells in the part will be more easily exhausted, and therefore in rheumatic individuals this particular joint will be the one first affected, and perhaps solely affected, in all attacks of rheumatism. A most interesting case of "Inflammation of the Joints following Injury of the Spine," which is recorded in THE LANCET by Mr. Wherry,[15] illustrates, I think, very well the development of arthritic mischief from irritation of the central nervous system, the irritation chiefly localised in the medulla oblongata, and affecting the vaso-motor centre.

Dr. Dyce Duckworth, in an extremely suggestive and able essay,[16] contends that gout is a primary neurosis, and that the portion of the nervous system specially involved is situated in some part of the medulla oblongata. I hope that what I have advanced will tend not only to confirm this view, but also—to use the words of Sydenham, which he quotes—to clear up and explain some of "the difficulties and refinements of the disease itself."

*(To be concluded.)*

[13] Landois and Stirling's Physiology, London, 1885, p. 854.
[14] Ibid., p. 898.
[15] April 3rd, 1886, p. 643.
[16] Brain, vol. iii., 1880, pp. 1 to 22.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—The thirty-seventh anniversary dinner in aid of the funds of this institution was held at Willis's Rooms on the 8th inst., the Duke of Connaught presiding. The hospital, established in 1848, contains accommodation for 164 patients, and, whilst its annual expenditure amounts to £10,000, its ordinary income does not exceed £3500. In the course of the evening the secretary read a list of donations and subscriptions, amounting to £2342, of which £1272 had been raised in the East-end of London.

# Gulstonian Lectures
ON
# SPASM IN CHRONIC NERVE DISEASE.

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## LECTURE III.

*(Concluded from p. 730.)*

### III. FUNCTIONAL SPASMS.

THE result of our consideration of those diseases which produce many varieties of spasm, and which are represented by gross lesions of the nervous system is, that a very large proportion must be put down to the credit of the cerebral system of fibres, or pyramidal tract. The spinal mechanisms are less prolific causes of these affections; but those spasmodic conditions which do occur in connexion with them have been considered under the heads (1) Peripheral—Motor Nerves; (2) Afferent Nerves; (3) Centres. It is only reasonable to suppose that, if functional spasms resemble those which result from gross lesions, they may admit of a similar explanation. In nerves and muscles which during life have been the seat of motor disorders, we may find no naked-eye or microscopic pathological changes after death. But clinical observation shows that, so far as function is concerned, marked changes have occurred. Now we know that healthy function must depend upon fine molecular re-arrangements which are at present a closed book to us; and we conclude that, if molecular changes form the basis of healthy function, they form that of pathological conditions also. If this be so, it is legitimate to argue that the molecular changes in question might affect the same parts which are the usual seats of the grosser lesions, and consequently give rise to similar abnormalities of function; and then the anatomical classification which has already been attempted in the case of tangible disease might serve also for those cases which are the result of impalpable alterations in nerve and muscle. I propose, therefore, to consider shortly certain forms of functional spasm, and I shall use the same divisions for classification which I have already used for grosser diseases.

1. Do functional disorders of the cerebral motor mechanism, or pyramidal tract, produce spasmodic conditions at all resembling those resulting from gross disease? They do. In hysteria not only does hemiplegia occur, but hemispasm, both fixed and mobile, is not uncommon. There is this difference between the hysterical conditions and those which are seen in gross disease—the leg is affected most, the arm less, and the face not at all. But the facts observed in gross disease, where the leg is usually less affected than the arm, are probably to be explained mainly by the fact that the vessels which bleed most frequently and interrupt the functions of the internal capsule are those which are situated towards the anterior part of its motor division—that part, in fact, which contains the fibres controlling the face and arm. But apart from these points, the spasmodic contractions of the leg and arm are similar in the two conditions. In functional diseases there is simply removal of the voluntary impulses which, in health, travel down the pyramidal tract. The muscles and nerves of the limbs remain practically healthy, and if rigidity is not too great the tendon reflexes are increased. Fevers and other exhausting conditions—such, for instance, as that of the patient with anæmia to whom I have already referred—may give rise to increased reflexes, and even to clonus and rigidity. Moreover absence of portions of the motor area of the cortex, such as, is occasionally seen congenitally, is accompanied by non-development of the corresponding portion of the pyramidal tract, and gives rise to spastic conditions like those found in hemiplegia. Absence of the voluntary impulses, then, is enough to give rise to the phenomena in question; and certain cases of hysteria have died after long-continued contraction of limbs, and the most careful examination with the microscope has failed to disclose any palpable pathological changes. Such a case is recorded by Dr. Bristowe

in *Brain* for October, 1885. This case I often saw myself, and, as Dr. Bristowe remarks, "at the end of two years she seemed as well in general health as when she first came to the hospital; but she was suffering from headache, sickness, ophthalmoplegia externa, complete anæsthesia of the right side, with rigid paralysis of the arm and leg, and repeated hæmorrhages of both ears." Dr. Hadden made a most complete microscopical examination of the central nervous system in this case, but found no evidences of disease. As we know, however, that mere absence of the voluntary motor impulses along the pyramidal tract is sufficient to give rise to this condition, it is legitimate to conclude that suppression of the functions of this tract is the cause of functional hemispasm. We are still further supported in this view by cases like that just quoted, where there is at the same time clear evidence of suppression of the functions of the sensory area as well.

Clinical and pathological observation has shown that monospasms having similar characters may be produced by certain limited lesions of the motor convolutions; and after what has been already said, it is not too much to assert that when spasm limited to a leg or arm occurs in hysteria, it is due to suppression of the functions of the pyramidal tract, which in health controls the action of the affected member. In discussing the question of athetosis and other allied mobile spasms, we arrived at the conclusion that they were due to affections of the same tract of fibres, which were not severe enough to stop the passage of voluntary impulses. Now, similar conditions occur in hysteria, and may probably be explained in the same way. Weir Mitchell, in his work on Nervous Diseases, records cases of "hysterical motor ataxy" and of "hysterical athetosis." It appears probable that changes, ending in greater or less functional abeyance of the pyramidal tract, lie at the root of unilateral, and sometimes of bilateral spasm, both in functional and in gross disease. The only difference is that in the latter case we can appreciate by our present methods of investigation the alterations which have been wrought, while in the former they are hidden from our view.

There is another class of functional spasmodic affections which are hardly represented among the forms of spasm due to gross lesions, and which I believe have their origin in suppression of the functions of certain portions of the pyramidal tract. I refer to those conditions which are sometimes termed "professional hyperkineses." They include histrionic spasm, writers' cramp, pianists' cramp, telegraphists' cramp, &c. The striking peculiarity of these affections is that, when a voluntary effort is made to perform the accustomed muscular acts, spasm of the muscles involved occurs and prevents further efforts. Before this stage of the affection is reached great fatigue often accompanies endeavours to work. In a considerable number of cases, at any rate, the muscles can be employed in other ways without difficulty. What has occurred is probably that after long-repeated acts of the same kind that part of the pyramidal tract which is used gets fatigued, and its functions are partly suppressed, so that a condition of "latent contracture" of the muscles, over the voluntary actions of which it presides, is developed; the lower centres are "let go," as Hughlings Jackson says, and are in a state of "hyper-physiological activity," just as the spinal centres of one side are in hemiplegia accompanied by slight rigidity.

In describing "latent contracture" in connexion with hemiplegia from gross disease, Ross says: "The patient may perform all the simple movements of the limb, and probably with undiminished power; but when his attention is specially directed to the movements, as when he wishes to perform any manual operation requiring a little dexterity, the muscles instantly become rigid, the fingers are flexed on the palm, and the deformity which was present during the period of fixed contracture reappears." Surely this description suggests the true explanation of professional spasmodic affections, which present symptoms resembling very strikingly those which Ross portrays.

Erb divides the professional hyperkinesis into spastic, tremulous, and paralytic. The tremulous cases are perhaps due to similar but slighter paralytic affections of the pyramidal tract, and the condition probably resembles in kind though not in degree, paralysis agitans. The pathology of the latter disease is not known, but those cases which one meets with where rigidity of the limbs and exaggerated reflexes occur, suggest forcibly degeneration in the pyramidal tract as the physical basis of the affection. The paralytic variety of the professional hyperkinesis is probably the result of extension of disease to the motor cells in the anterior cornua of the cord, at any rate in those cases where marked atrophy occurs[1]. I should remind my hearers, in passing, that the term "pyramidal tract," as used here, includes not only fibres but the motor cells of the cortex in which they originate.

2. We have seen that spasm of muscles resulting from gross disease of the pyramidal tract has its representative among functional diseases; let us now consider that which owes its origin to affections of peripheral motor nerves. Is it likewise represented among functional disorders? Actual gross pathological changes in motor nerves give rise to muscular spasm, as has already been pointed out, in two ways—the one direct, and the other indirect. In the latter case, certain muscles atrophy and disappear, and, undergoing cicatricial shortening, produce distortion; or else their opponents, being left to act in their absence, give rise to abnormal positions of the limbs. Now, one of the striking peculiarities in functional nerve disease is the absence of such degeneration and destruction of muscles. Hence we should not expect to find any functional spasms which were due to such indirect causes; nor do we, so far as I know. We also came to the conclusion that direct irritation of motor nerves is a very rare originator of spasm; and there is no reason to suppose that it is less rare as a cause of functional affections. Nerve centres seem much more prone than nerve fibres to functional disorder. I am not sure that the latter condition, originating in centres, may not so affect even peripheral nerves which are connected with them as to give rise to symptoms which are found in gross disease only when peripheral nerves are involved. Dr. Norris, of Windsor, sent a girl, aged sixteen, to me for treatment in the hospital, who had lost the use of her left hand for eighteen months. She was a strong, healthy girl, and free from evident hysterical tendencies. The affection commenced with swelling and blueness of the fingers, such as is seen in chilblains; and the hand was cold and numb. When she came to me the hand was completely paralysed and had a swollen puffy look; the skin was paler and smoother than that of the right hand, and the backs of the fingers far less wrinkled. The left hand was much more influenced by external conditions than the right, and rapidly became warm when covered and cold when exposed. She got suddenly well after the application of a blister to the wrist, but then lost power in the left leg; the latter also suddenly recovered power. But although slight alterations, such as those which were observed in this patient, may occasionally occur in peripheral motor nerves in cases of functional disease, I am not aware that they give rise to muscular contraction.

3. Nor is there any proof that chronic spasm is produced by molecular changes of afferent nerves alone. Even in gross disease of an afferent nerve giving rise to reflex spasm, the lesion is often so trivial as to make it very probable that functional disorder of the centres is present as well, and is the main factor in the production of spasm. When speaking of reflex spasm from gross disease, I pointed out certain cases of what appeared to be rhythmical spasm due to affections of tendons; and I cannot help thinking that this class has frequent representatives in functional diseases. But they are due more to the abnormal condition of the centres than to that of the peripheral nerves. There can be no question that one of the peculiarities of nerve centres in hysteria is their abnormal irritability; so that slight afferent impressions give rise to muscular acts, which pass with great ease into neuro-muscular habits. Such a condition is well exemplified in cases due to imitation. The patient sees a certain form of muscular spasm, and the idea produces the same in her. For instance, a healthy girl, aged seventeen, came to my out-patient room complaining of involuntary movements in her right hand and tongue. On examination, it was seen that the thumb was rhythmically adducted, and there was simultaneous flexion of the fingers, most markedly of the index-finger, which moved in such a way that she appeared to be rolling something between it and the thumb. At the same time she was troubled by being suddenly unable to finish a sentence, owing to the tongue refusing to act properly. The girl worked in a confectioner's shop, where one of her comrades became affected with uncontrollable movements in the left hand and catching in her

[1] See Brain, vol. vi., p. 233: "A of Sawyer's Cramp," by G. V. Poore, M.D.

speech. After a short time my patient became similarly affected.

The following is another case of suddenly developed neuro-muscular habit, though it originated in a somewhat different way. A healthy, dark-haired girl of sixteen, who had never had any illness, and had no evident neurotic peculiarities, went for a row on the Thames with some friends in the summer of 1885. She rowed without much intermission for five hours, which was to her quite an unaccustomed length of time for such recreation. She used to row every morning at Wandsworth, where she was at school, but only for an hour at a time. About an hour after returning from this long row her arms began to twitch, and movements continued uninterruptedly, and remained of a precisely similar kind, up to Dec. 29th, 1885, when Dr. Bristowe, under whose treatment she had been, very kindly asked me if I should like to see her. Both arms were the seat of similar and synchronous movements occurring regularly about 160 times a minute. They consisted of rapid elevation and retraction of the arm at the shoulder and of the scapula, partial flexion at the elbow, and slight extension of the wrist; in fact, they bore a very marked resemblance to the movements of the arms and hands in rowing, the extreme rapidity of the "stroke" making up for the limited extent of the movements. In these rhythmical contractions it is not at all improbable that the slight stretching of the tendons of the affected muscles which naturally results from the action of their antagonists gives rise to another contraction, and so on for an indefinite number of times. Such a condition, though much less marked, is sometimes seen when the spinal centres are cut off from connexion with the cerebral cortex by gross disease.

A case of caries of the cervical vertebræ was under my care in St. Thomas's Hospital last summer, in which paraplegia with rigidity had been present for five years. The legs were always flexed at the knee and hip, but could be extended by continuous gentle traction. As this was being performed, movements of flexion and extension, which were involuntary, occurred. When the tendons of the flexor muscles were stretched, the latter contracted, and in so doing they put the extensor tendons on the stretch and so caused their contraction. Weir Mitchell has noticed these "alternate spasms" in hysteria, in which, as he remarks, the action of the flexors calls the extensors instantly into play, and this, in turn, summons the flexors into activity. "These spasmodic motions," says he, "were the more curious in the last case I saw, because of the general and profound paresis, which made every volitional effort excessively difficult." Such an absence of voluntary power in the case of which Weir Mitchell speaks shows that the functions of the cortical motor centres were in abeyance. Instances of alternating spasms are far from rare in hysteria, and probably owe their presence to excessive irritability of the spinal centres, and the development of a habit through the intermediation of tendon reflexes. "Saltatory spasm" is a good instance of this class of cases.

4. The fourth and final heading under which we have to compare spasmodic conditions arising in connexion with gross nerve lesions, with functional disorders, is disease of the spinal motor centres. We have already seen that tangible pathological alterations in these cells give rise to paralysis and subsequent atrophy of muscles, but we could quote no facts to show that muscular spasm ever originates from such disease. Those impalpable molecular changes which result from the anatomical separation of the cerebral motor centres from the spinal centres produce a condition of hyper-physiological activity of the latter, to which many spastic conditions are due. Does abnormal functional activity ever exist primarily in the spinal centres and result in spasm? This is a question which is very difficult to answer. In the case of gross lesions which interrupt the continuity of the pyramidal tract fibres, even where no actual spasm has resulted, there exists a condition of excessive excitability of the spinal centres, which gives rise on the slightest provocation to rigidity of muscles. An injury, even of a trivial nature, may in such cases produce contracture. Exactly the same state of things is found in hysterical subjects; and Charcot, in his lectures on Nerve Disease, gives instances of the most trifling injuries suddenly producing spasmodic conditions of limbs in such patients. But we must remember that persons may have those peculiarities of their nervous system which are usually embraced under the term "hysteria" without ever presenting striking emotional or other tendencies which are wont to call attention to the existence of the disorder. The first evidence of the latter may be the sudden supervention of spasm from a very slight external injury. If this condition of the spinal centres depends mainly upon the amount of cerebral control exerted over them by the functional activity of the pyramidal tract, it is evident that there must be infinite gradations between the normal and abnormal. Indeed, it is impossible to give any strict definition of health and disease. All we can say is, that the more cerebral control retires into the background the more likely are spasmodic conditions to come to the fore.

It is quite impossible to answer the question, whether hyper-excitability of the spinal centres occurs in the absence of diminution of cerebral influence to account for it; but it probably does. We know that strychnine, in certain doses, produces an excitable condition of the spinal centres, which Charcot has likened to that which is seen in "latent contracture" due to gross lesions of the pyramidal tract, and to hysteria. In comparing strychnism with the latter, Weir Mitchell says:[2] "Perhaps I shall in a measure clear your minds as to the nature of what I mean by functional spasms if I recall to you the influence of strychnine in large doses, such as you have seen given here many times. You will remember that, in certain spinal maladies, such as those of syphilitic birth, it is my habit first to give iodides in heavy doses, then to suspend them for a time, and to give strychnine up to the limit of physiological endurance—that is to say, until I cause an approach to spasm. When, for example, you give hypodermically from one-fifth to one-eighth of a grain daily, the patient will have little or no annoyance, if you are careful to insist that he remain at absolute rest in bed for two hours after each injection. If there be any tendency to spastic twitchings of the muscles, the will is competent to control them, unless—and this is the point I would make—the patient attempts to exercise. Should he do this, the effort results at once in irregular movements of an incoördinate character, and in slight or more grave spasms of the muscles employed. While at rest there is no obvious trouble, but voluntary movement occasions spasms, which are the offspring of the poison. They are, in a word, functional spasms, and would not be seen at all with a limited use of strychnine, were it not for the efforts of voluntary action." If, then, a substance circulating in the blood can directly produce this condition of the spinal centres, in which they may almost be said to be watching their opportunity to produce muscular contraction, it is not improbable that molecular alterations may arise from other causes, and produce a similar excitable condition of these centres. We know, however, little, if anything, about the changes which act thus. What are called phantom tumours of the abdomen, and sometimes of other parts, may have some such origin; Weir Mitchell records one in which all the abdominal muscles had remained violently contracted for a year. But whether this be the explanation of such cases or not, the hyper-physiological activity, due to lack of cerebral control, which exists in the spinal centres of some subjects, is probably the principal factor in a very large number of tonic and clonic functional spasms.

In the comparison which has been attempted between the results of gross disease on the one hand, and molecular or so-called functional alterations on the other, the pyramidal tract stands prominently forth as the greater offender in the production of muscular spasm. Its action is indirect, it is true, as it only looses the reins of the spinal centres, which it should keep well in hand. Still, it rules the situation. Spasm rarely ensues directly from injury or disease of peripheral motor nerves, and although it frequently results from reflex causes, it is very likely that the spinal centres are, in a considerable proportion of cases, more at fault than the afferent nerves. It may be thought somewhat curious that, in speaking of diminution of cerebral control, the voluntary motor tract should alone have been referred to as liable to suffer from depression of its functions. But the only reason why it has been thus signalled out is that these lectures have dealt with motor phenomena. The sensory functions of the brain suffer, too, in a very striking manner, so that complete hemianæsthesia is far from a rare occurrence in hysteria, the loss of function being evident in the realm of the special senses, as well as in that which has to do with common sensation. And although at first sight these functional defects appear to be confined to one side,

[2] Lectures on Diseases of the Nervous System, especially in Women p. 100.

careful investigations show that they are not. For in cases of hemianæsthesia, both fields of vision are contracted, although that on the anæsthetic side is the most affected. Again, in cases where the loss of function appears to be confined to the sensory area, a careful comparison of the muscular power on the two sides will show that this is not so. In a case of the kind which I lately saw, I found that on the hemianæsthetic side the patient could only reach 45 on the dynamometer scale, although this was the right side, while with the left she reached 50. In such hysterical patients it is probable that nerve power is deficient in all parts, and on both sides of the brain, although this deficiency is more marked on one side than the other, and more so in some portions of that side than in others. Considering how late the pyramidal tract develops in man, and what a high pitch of evolution it represents, it is not to be wondered at if it is one of the first parts to suffer in the process of dissolution.

If we are right in considering deficient nerve power, especially in the brain, as the condition which is at the root of functional nerve disease, the term "neurasthenia," a product of modern times, would be a more suitable general title for such disorders than the older term, "hysteria." When we review the history of nerve disease in families, we cannot but conclude that people are born with very different physical bases both in their nervous and other systems; and no line can be drawn between those that are normally stable and enduring under unfavourable circumstances, and those who are liable to lose equilibrium. Some patients would remain perfectly well had they not accidentally met with some catastrophe, and then they get into the category of hysterical patients. And yet there are many of their friends and acquaintances who are as liable to functional disorder as they are, and who yet may never have their weakness brought to light, owing to their not having been exposed to a sufficiently severe trial. Even small portions of nerve centres may become hysterical, if I may be allowed to say so—as, for instance, in writers' cramp, pianists' cramp, and other professional hyperkineses. All that we know of this matter is, that functional nerve disease, even in the case of apparent exceptions, such as spasm, is due to deficiency of nerve power. How the condition is actually brought about we cannot tell. Some think the centres are starved by contraction of their nutrient vessels. It seems to me more likely that the nerve centres are exhausted by their own action. Thus, sudden emotional excitement may bring on hysterical phenomena, indicating nerve exhaustion, such as hemi-anæsthesia, paralysis, or spasm. It is important to remember, too, that exhaustion of one arena seems to affect the whole system. This may indicate that the various differentiated centres draw nerve force from some common supply. Considering the enormous amount of cells which are found in the cerebral grey matter, many without evident connexions, is it going too far to suppose that a large number of these are factories for the production of nervous energy, which is necessary for the continuous and regular action of the highest centres, and which flows in increasing quantities towards those centres which are from time to time brought into action? Constant supply would mean constant power in all centres; and as the latter are all bound together so as to produce a physiological equilibrium, constant power would involve constant control of one by the other. Where the store of constantly produced force (represented, of course, by structural peculiarities) is by inheritance small, or where it has been exhausted by unnatural calls upon it, there would be insufficient to supply all the centres, and those to which the nerve paths are most freely open by habit would command it, while others would be starved, and loss of equilibrium, or the natural control of one centre by the healthy action of others, would be the inevitable result. If we do not suppose any such reservoir of nerve energy, how can we explain the exhaustion of all by the excessive action of some centres? Why is a person who has had excessive mental work less able for the time to do active bodily work? and why when bodily fatigued are we less ready to do intellectual work?

But I have gone, I fear, too far into a region of speculation, which it is hardly legitimate for me to have even entered with so small an equipment of facts. I shall therefore say no more, but bring these lectures to a conclusion by offering an apology for having chosen a subject which is so extensive in range, and at the same time so obscure and little understood, that my treatment of it must fall far short of that which is expected on occasions like the present.

ON AN

# IMPROVED OPTOMETER FOR ESTIMATING THE DEGREE OF ASTIGMATISM AND OTHER ERRORS OF REFRACTION.

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ABOUT nine years and a half ago I published a description of a cheap and simple form of optometer for estimating the degrees of astigmatism.[1] Since then at least one new method of ascertaining the existence of astigmatism and estimating its amount has been introduced, and many improvements have been effected in the older methods. The novel plan is that which was first employed by M. Cuignet of Lille, and is commonly called keratoscopy or retinoscopy.[2] The introduction of this method has had almost as great an influence upon ophthalmic practice as that of the ophthalmoscope itself. It is at once simple, certain, and *objective*, and in the majority of cases it is sufficiently precise. In young children it is almost the only available plan. There are, however, some conditions in which it is less applicable—such as nebula, or leucoma, or irregularity of curvature of the cornea, small pupil, anterior or posterior synechia, uvea on the capsule of the crystalline lens, haziness of the lens itself or of the vitreous, or a darkly pigmented fundus. It is true that many of these disqualifications may be removed by the use of atropine or other mydriatic. But there are not a few objections to the indiscriminate employment of mydriatics for working out errors of refraction. The temporary abolition or embarrassment of the power of accommodation for some hours, or even days, is by no means the worst of these objections. At least two cases have lately come under my observation in which a solution of atropine applied to the eyes for the purpose of dilating the pupil in order to facilitate the estimation of hypermetropic astigmatism by retinoscopy very speedily gave rise to an outbreak of subacute glaucoma in both eyes. Even without this untoward experience, I have always, as far as possible, endeavoured to avoid using mydriatics for the purpose of estimating errors of refraction, but especially in hypermetropes, in whom the tendency to glaucoma is greater. In all cases in which retinoscopy is difficult, or where great precision is desirable, other methods must be employed. Personally, I prefer Green's tests or my own optometer. With the latter I can in most cases obtain trustworthy results without the use of atropine, though in some instances the result is only approximately correct. But this objection applies to any other single plan or to any combination of plans. In difficult cases it is, therefore, always well to employ at least two different methods, each corrective or confirmatory of the other.

Though the optometer which I now employ is in principle the same as that which I originally described, I have from time to time introduced modifications calculated to increase its efficiency. These modifications have, however, never been formally described, but have been for the most part suggested to various opticians and instrument-makers, who, wishing to copy the optometer, have asked me for information about the working out of some of the details. The chief modifications are—(1) a graduation of the horizontal bar, in accordance with the dioptrical system; (2) an improved dial card; and (3) a vertical bar of adjustable cylindrical lenses. These may be more particularly but briefly described.

(1) Since the year 1879 the horizontal bar has been divided on its upper surface not only into inches and tenths, but also into *focal lengths* of dioptrical lenses and quarters, from three dioptres to forty. These focal lengths I call *dioptrostads*.

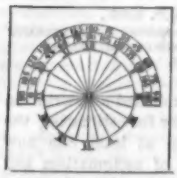
(2) The radiating lines on the dial card are indicated not only by the Roman numerals I. to XII., but also by a double row of Arabic numbers. Each number of the lower row records the angle which the corresponding line makes

[1] THE LANCET, Oct. 28th, 1876.

[2] For an excellent account of so-called "retinoscopy," see article by Dr. Charnley, Royal London Ophthalmic Hospital Reports, vol. x., p. 344.

with the horizon, beginning from the left; and each number of the upper row serves the twofold purpose of indicating—first, the line which is at right angles to its fellow in the lower row; and, second, the position of the axis of the correcting cylindrical lens. (Fig. 1, and Fig. 2, *j*.)[3] For example, the line at right angles to 135°, running from between I. and II., is seen to be 45°, which will be found to run from between X. and XI. As the two principal meridians of the eye in regular astigmatism are at right angles with each other, it follows that if the line 135° be in one principal meridian, the line 45° will be in the other principal meridian, and so for every other line. The radiating lines may be fine and of equal thickness throughout, or, preferably, they may gradually increase in thickness from the centre to the periphery, as in one of Green's astigmatic disks.

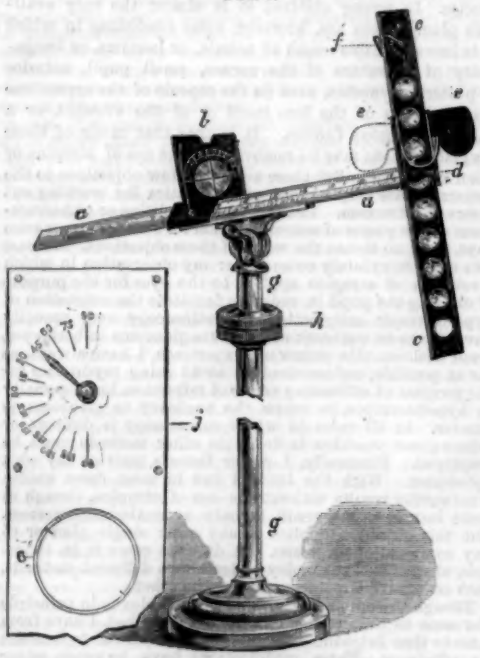
FIG. 1.



Reduced rather more than one-half.

(3) I have always recognised the advantage of having cylindrical lenses affixed to the instrument, but for a long time there seemed no way of carrying this into effect except by a disk like that on Javal's original optometer. To any such arrangement I have always objected, chiefly for the reason that the disk prevents the eye under examination from getting close to the instrument, and compels the patient to twist the head to look out of the outer canthus. Both these conditions tend to vitiate the result. The difficulty has at length been overcome by using a vertical bar of concave cylindrical lenses. (Fig. 2, *c* and *j*.) By a simple arrangement, worked out, now more than eighteen months ago, by Messrs. Pillischer of New Bond-street, all the cylinders may, by turning a tap (*f*) be rotated simultaneously, so that the axes of all the cylinders are always parallel. The cylinders are set by making the indicator on the plate (*j*) point to the number which on the dial card is in the upper row opposite the line most clearly seen at the greatest possible distance in the examination about to be described. The axes of all the cylinders will then be at right angles with this clearest line. The concave cylindrical lenses contained in the vertical plate are 0·5, 1·0, 1·5, 2·0, 3·0, 4·0, 5·0, and 6·0 dioptres. It would be easy to increase the number so as to have finer gradations, but practically these are enough. If, for example, 2·0 D were not enough to correct the astigmatism, while 3·0 D over-corrected, it is clear that 2·5 D would be within 0·25, or $\frac{1}{100}$th of an inch of perfect correction.

FIG. 2.




The optometer should be used in the following way: 1. A convex lens having been slipped into the clip at *d*, in order to make the eye about to be examined artificially short-sighted, the eye is placed as close as possible to this lens and made to look, with head erect, straight through its centre at the dial card beyond on the plate (*b*). (See also Fig. 1.) The lens (myopising lens) which will be required will vary with the refraction of the eye. It is best to select a lens which brings the far point to about 8 in., or 5 *dioptrostads* from the eye. In hypermetropia 8 D to 12 D, or even more, may be required; in myopia 1 D to 3 D may suffice; and in high degrees of myopia—that is, more than M = 8 D—no lens will be needed. The opposite eye should be excluded by the screen (*e*). The height is adjusted by means of the telescopic stem (*g*) and the screw collar (*h*) 2. The dial plate (*b*), placed at first beyond the point of distinct vision, is slowly approximated to the eye until at least one of the radiating lines is seen *clearly and distinctly* throughout its whole length. After this the plate should not be moved, and its distance from the eye should be noted in dioptrostads ($\delta$). Under the circumstances the line is seen at the greatest distance from the eye, and therefore in the principal meridian of *least curvature*.

If *all* the radiating lines come into view with equal clearness at the same greatest distance, there is no astigmatism; but if *one or two* lines be clearly seen, while the others, and especially those at right angles to them, are blurred, there is astigmatism, which may be corrected by placing a suitable concave cylindrical lens in front of the eye, with its axis at right angles to the clearest lines. The suitable lens is the weakest which makes all the lines equally clear. This is ascertained by sliding the vertical bar of cylindrical lenses, properly adjusted, in the groove at *d*, till correction is accomplished. The weakest cylinder that will do this represents the *amount* of astigmatism.

This completes the examination. It only remains to interpret the results.

1. As already stated, if *all* the radiating lines come into view at the same greatest distance there is no astigmatism. (*a*) If the greatest distance in dioptrostads ($\delta$) equals the number of dioptres (D) in the myopising lens, there also is no other error of refraction: D = $\delta$. (*b*) If the greatest distance have *fewer* dioptrostads than there are dioptres in the myopising lens, there is hypermetropia equal to the difference between the two: H = D − $\delta$. For example: If D have 8 dioptres and $\delta$ 5 dioptrostads, then the hypermetropia will be 8 − 5, or 3 D, and the patient will require a correcting lens of this strength. (*c*) If the greatest distance have *more* dioptrostads than there are dioptres in the myopising lens, there is myopia equal to the difference between the two: M = D − $\delta$. If D be 5 dioptres and $\delta$ be 8 dioptrostads, M = 5 − 8, or −3 D; and the patient will need a concave lens of this strength.

2. If only *one line or two lines* are clearly seen at the greatest distance, there is astigmatism. The refraction of the meridians in which these lines are seen will depend upon whether the distance at which they are seen be *beyond* or *within* the focal length of the myopising lens, as shown above; $x$ = D − $\delta$. (*a*) The astigmatism is, as already stated, represented by the *weakest* concave cylindrical lens which set at right angles to the clearest line makes all the lines clear. (*b*) The correcting lens for distance will be the combination of the spherical lens found by the above formulæ and the weakest concave cylinder which corrects the astigmatism. If D = $\delta$, no spherical lens will be needed, and the cylindrical lens alone will suffice; if D be greater than $\delta$, a convex spherical lens will be needed in addition; and if D be less than $\delta$, a concave spherical lens.

[3] Optometers containing most of the improvements in the marking of the bar and in the card were, I believe, first made by Messrs. Pickard and Curry, of Great Portland-street, about six years ago.

AT the annual meeting of the governors of the Princess Frederica's Convalescent Home for Married Women, at Hampton Court, on the 16th inst., a highly satisfactory report was presented. During 1885 the annual subscriptions and donations had considerably increased, the total income for the year amounting to £796.

# THREE EPOCHS IN MEDICINE.[1]

BY M. CHARTERIS, M.D.,
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GENTLEMEN,—In this concluding lecture I desire to briefly draw your attention to certain facts connected with the history of medicine which stand boldly out as means for averting disease and death. I allude to three epochs: (1) Vaccination; (2) Antiseptics; and (3) Hydrophobia. I am induced to do this because we are at the present moment passing through the third epoch, the results from which seem to be very momentous and far-spreading. To a great extent these epochs are distinguished by circumstances obscure in their origin and deduced from observations of common life. All men can see the sun, the moon, the stars, the sea, and the wide expanse of earth, but it requires the man of genius to raise these, as it were, from their surroundings and enhance them by the beauty of song and verse. This idea is revealed notably by the incidents which led up to Jenner's great discovery.

Jenner was a distinguished student in London, and had the privilege of the friendship and instruction of John Hunter, yet he settled in a country practice, and, notwithstanding great inducements, never forsook the field of his early labours. He cared not for fame, for he lived for mankind. Thus he simply states when requested to go to London and make his fortune, "Shall I, who even in the morning of my days sought the lonely and sequestered paths of life, the valley and not the mountain—shall I now, as my evening is fast approaching, hold myself as an object for fortune and for fame? My fortune from what flows from my profession is sufficient for my wants; and as for fame, what is it?—a gilded butt for ever pierced with the arrows of malignancy." As Jenner rode or walked on his daily rounds through one of the most fertile of English country districts, he meditated much on disease, and particularly on that disease which spared neither sex nor age, and which, when not fatal, rendered its victim for the future unseemly and pitted. Small-pox was a dreaded scourge, recognised as the hereditary curse of mankind, and as an inheritance which neither time nor medicine could remove. The practice of inoculation introduced by Lady Mary Wortley Montagu robbed it of some of its terrors, for small-pox so imparted gave rise to a milder form of disease, and there was little if any chance of a fatal issue. But small-pox perpetuates small-pox. All were not inoculated, and in proportion as inoculation was actively undertaken the centres of contagion were multiplied and almost every home was converted into a hospital. Inoculation therefore did not diminish—nay, it actually increased the mortality from small-pox. Country gossip averred that milkmaids who contracted cow-pox when they handled the teats of diseased cows were not afterwards attacked by small-pox. It was only gossip. It might be an idle tale. Many men had heard it before and scouted the idea. It was not so with Jenner. He investigated the matter, and step by step, not in a day, or a week, or a month, or even a year, but after he was forty-nine years of age, he was led to formulate his conviction "that in a certain condition the pustule imparted its protective power to the human constitution." It was, moreover, a protective power from disease in its most repulsive form. Around small-pox there are no æsthetic qualities, no fair features, which in some cases of illness seem to purge away the grosser clay and leave in death's embrace an image pure and bright. The sick room in small-pox is permeated with a loathsome odour from the ripe pustules; the face is swollen, the eyes closed, and in the bloated countenance no gleam of intelligence rests. Yea, even a mother's love I have seen recoil from such a spectacle. The country surgeon, the middle-aged man, was lost in reverie, for he foresaw that in future years this terrible affliction would be removed from the human race, that the lines of beauty would never be scarred, and that glad mothers in every land would bless the name of Edward Jenner. No wonder, when this prospect brightened before him, he wrote: "While the vaccine discovery was progressive, the joy I felt at the prospect before me of being the instrument destined to take away from the world one of its greatest calamities was often so excessive, that, in pursuing my favourite subject among the meadows, I have sometimes found myself in a kind of reverie. 'Tis pleasant for me to recollect that these reflections always ended in a devout acknowledgment to that Being from whom this and all other mercies flow." The progress of vaccination was rapid. It was adopted in America, India, and other colonies, and the continental nations hailed it with delight. Honours flowed upon Jenner. Napoleon had a medal struck in commemoration of the discovery, and presents in money were forwarded to him from the capitals of our Indian presidencies. A touching tribute was sent by five native Indian tribes in America, in which they said: "We shall not fail to teach our children to speak the name of Jenner. We send with this a belt and a string of wampum in token of our acceptance of your precious gift, and we beseech the Great Spirit to take care of you in this world and in the land of spirits."

When I was a student in Edinburgh Joseph Lister lectured on surgery as an extra-mural teacher, and we were not then impressed with his abilities. He was slow and hesitating in his speech, spoke with diffidence, and as an operator lacked dash and rapidity. He was, however, the son-in-law of Syme, and he had possibilities which he has since worthily fulfilled. Appointed to the Chair of Surgery in this University in 1864, he was also made a surgeon in the Royal Infirmary, and in this latter sphere he evinced those thoughtful qualities which have rendered him famous. The surgical hospital of the infirmary was unhealthy, as well it might be, for circumstances afterwards showed it was built on a charnel-house. Behind the lowest male accident ward, a few inches below the ground, with only the basement area intervening, there was found on investigation the uppermost tier of a multitude of coffins, which had been placed there at the time of the cholera epidemic in 1849. The result of this proximity to the ward was evidenced by the fact that compound fractures with open wounds always assumed a bad type and developed pyæmia. Measures were adopted to remedy this nuisance, and were successful. Yet from this polluted atmosphere Lister apprehended how germs aided putrefaction, and subsequent experiments which he made on animals, under antiseptic precautions, showed no trace of putrescence. Based on these facts, he proved that wounds by accident or resulting from surgical operations could be rendered clean and wholesome. Lister did not, however, rush into print with the information all at once. Not until he had carefully satisfied himself on every point, and until conclusive evidence had been accumulated, did he publish his observations in THE LANCET. The sensation produced was marked. It evoked a new era of surgical practice. It surprised and fluttered the timid dwellers in the peaceful dovecots of orthodox routine surgery. Their wonder was intense when they learned how from the odour of a cemetery, round which the slimy Molendinar creeps, a Glasgow professor and a hospital surgeon deduced correctly the antiseptic process of treating wounds. So carefully founded on fact were his conclusions that the surprise deepened into gratitude, and they were accepted without much cavil. THE LANCET thus summarised the importance of the discovery: "If Professor Lister's conclusion with regard to the power of carbolic acid in compound fractures should be confirmed by further experiments and observation, it will be difficult to overrate the importance of what may be called his great discovery. For although he bases his surgical use of carbolic acid upon the researches of M. Pasteur, the application of these researches to the case of compound fractures, opened abscesses, and other recent wounds is all his own." The great characteristic of Lister is his thoroughness. He assumes nothing. He tests the experiments of others. He is open to conviction, and he is never dogmatic. In a word he is a man to be trusted, and hence he occupies a unique position in the scientific world. As a lecturer he greatly improved after he was appointed to this University. His voice was carefully modulated. He never spoke quickly; always distinctly; repeated when necessary his sentences to emphasise his lectures. In 1874 he dedicated to Pasteur his "Researches on Antiseptics," which he says, "for the last nine years I have been trying to bring to perfection. Allow me to take this opportunity of sending you my most cordial thanks for having, by your brilliant researches, demonstrated to me the truth of the germ theory of putrefaction, thus giving me the only principle which could lead

[1] Lecture delivered at the conclusion of the winter course on Therapeutics at Glasgow University.

to a happy end the antiseptic system." Pasteur, it is stated, received this dedication with the most lively satisfaction.

We are living at present in the epoch of the cure for hydrophobia introduced by M. Pasteur. The principle of his method is as follows. The saliva of a rabid dog is the usual medium of communication to a human being. The dog bites and by the insertion of the saliva into the flesh, the poison is introduced. By the blood it is carried to the nervous centres of the brain and spinal cord, and after a certain length of time symptoms of hydrophobia are developed. If now a portion of the brain or spinal cord of a rabid dog is placed after trephining under the dura mater of a rabbit, rabies will develop in the rabbit as a rule after an average incubation of about fifteen days. But the virus so communicated can be intensified in virulence. By the same method the virus from the first rabbit is communicated to a second, from the second to a third, and so on until at the end of the fiftieth inoculation the incubation period is only seven days. The spinal cords of these rabbits are thus rabid throughout their whole extent, with a constant and definite degree of virulence. From one of these rabbits the spinal cord is taken, with due antiseptic precautions, and is suspended in dry air. The virulence, slowly disappearing, is finally extinguished. In this way the cords of rabbits can be had at a different stage of virulence. Soup of a certain kind is mixed with a fragment of cord, not in a very virulent state, and is injected under the skin of a dog. After an interval usually of two days, injections from more recent, and therefore more virulent, cords are used, until a time is reached when a portion of a very virulent cord is injected—i.e., of a cord which has only been kept in the dry air for a day or two. What is the result? The result is that the dog is completely protected. No symptoms of rabies can be produced either by the direct bite of another rabid dog or by injection of rabid matter. Pasteur so experimented with fifty dogs without a single failure, and then he justly considered he could test the experiment on a human being. On July 6th, 1885, an Alsatian boy (Joseph Meister) was brought to his laboratory who had undoubtedly been bitten by a rabid dog, and whose condition was such as to justify the supposition that hydrophobia was incubating in his system. Half a syringeful of a cord that had been kept for fourteen days was injected on the 6th, and on succeeding days injections were made from cords which had been kept for shorter periods, until at the end of ten days half a syringeful was injected of a cord which had only been kept one day. The 6th of July, 1885, was therefore the birthday of the cure of hydrophobia.

It may interest you to know what kind of a man Pasteur is. I was fortunate enough to see him at the last International Medical Congress in London in 1881, and to be so near him that I remember well his physique. He walks with a slight limp, for he once had an attack of hemiplegia due to continuous nervous strain from prolonged examinations with the microscope. He is about middle height, and rather stouter in his development than Frenchmen usually are; his head is massive, and planted on broad shoulders; his eyes are yellowish-brown; his forehead markedly wrinkled; his face full, and his beard short, scant, and grizzled. The whole appearance of Pasteur indicates decision of character, and his career shows that he pursues science from no selfish or pecuniary motives. His laboratory or hospital is open to the inspection of all duly qualified medical men. He exacts no fee, and he courts inquiry of anti-vivisection views. When men, or rather ladies, scoff at his present efforts, they should remember that Pasteur has a character to lose, for he discovered the cure for the silkworm disease, for splenic fever, for fowl cholera; that he defeated the great chemist Liebig in the assertions he made about acetic fermentation; and, further, that in all his researches his strongest wish has ever been to benefit his fellow-men. In a public assembly he uttered these remarkable words when upbraided for cruelty: "I never had the courage to kill a bird in sport, but when it is a question of experiment I am deterred by no scruples. Science has the right to assume the sovereignty of its aims."

Pasteur's treatment of hydrophobia is as yet *sub judice*, but we must all hope that the Royal Commission lately formed to investigate the matter will be able to give a highly favourable report. If Pasteur's idea is true, there is no doubt it has a wide applicability. It is simply the conception of Jenner carried out in another form. Attenuate the virus of small-pox and you destroy the fatality and virulence of variola. Inoculate other animals with the poison of rabies, and from this weakened virus safety seems to be secured to the bitten sufferer if recourse to the proceeding is effected in time. Go further; why remain content with small-pox and hydrophobia? Every seventh death in our country is due to phthisis in some form or other. A child from a phthisical parent, in nine cases out of ten, will, in his growing youth or mature manhood, be attacked by tubercle. That statement is about as certain as any yet made on the etiology of disease. Koch's bacillus stamps a peculiar identity on tubercle, and this bacillus can be isolated and cultivated. It does not originate, but its imprint is a true and unfailing sign of, pulmonary phthisis. Inoculate rabbits or guinea-pigs with this bacillus, and from these inoculations let hereditarily tainted consumptive patients be vaccinated before the constitution is sapped and its vigour impaired. It is a possibility that a safe and simple course of tuberculosis would follow, as safe and perhaps as simple as the vaccine vesicle of childhood, and complete immunity in after-life from the disease might be the result.

It is a painful and humiliating fact that now all original investigations are checked in Britain. We read of Pasteur's work. We cannot accredit or discredit it. We are surrounded with such careful legislation that not a guinea-pig or a rabbit can be sacrificed by a scientific inquiry without the licence of the Home Secretary. If we apply for the licence, we are asked why it is wanted. Is it for idle curiosity or to enlarge the sphere of knowledge? We are considered bloodthirsty men, and we are supposed inhumanly and wantonly to torture the lower animals. A more unjust charge was never made against a noble profession. The examples I have indicated show how humanity has been benefited by the efforts of these men. Advancing science cannot be stayed by odious whisper or sensational laws. Able and enthusiastic workers are ready to take the field in this country to expiscate facts from the domain of credulity and conjecture. Great is truth, and it will prevail, and I venture to say, before a decade passes, that the generous instincts of our newly enfranchised countrymen will sweep away from us every trammel which impedes honest experimental research having for its only object the relief of human suffering. Let us appeal as a profession from sentimental Cæsars to the people whose weal we desire; and let us ask with united voice that the land of Jenner, of Hunter, and of Lister should be as free for scientific inquiries as that of Pasteur and Virchow. Then, and not till then, will our true position among nations be resumed—a position which is ours by right from the mighty men renowned in medicine and surgery and allied sciences which this country has produced, and of whom we are justly proud. We will then lead the way.

## CAN PNEUMONIA OCCUR AS THE DIRECT RESULT OF EXTERNAL VIOLENCE?

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IT is no very rare experience to find pneumonia and bodily injury in near association, yet the precise nature of the relationship is still open to dispute. At the present time, when the pathology as well as the causes of this disease are being sought out from a wider field than heretofore, the question with which I have headed this paper has something of new interest. On this account the case of a child lately admitted into the Hospital for Sick Children under my care is worthy of record. It illustrates some of the difficulties that beset us in a correct interpretation of facts, and gives occasion for a brief review of existing opinion upon this subject. The following narrative is abridged from very full and careful notes taken by Dr. Thomson, house-physician.

Charles T——, aged eleven, an ill-nourished, pigeon-chested child, dirty and neglected, was admitted to the Alexandra ward on the morning of Jan. 9th. He was much collapsed, the face pale, and extremities cold and clammy. The breathing was very shallow and rapid; respiration 50. Pulse 176, regular and very compressible; temperature 103°. Lips and tongue dry and cracked. Though drowsy and indifferent, he could yet answer questions, and when

moved gave sign of pain in the right chest. There was no tenderness, however, at this place, and no bruising anywhere. When left undisturbed the breathing became slightly stertorous. On physical examination, a patch of impaired resonance was made out below the right scapula, and here the breathing was faint and the bronchial and the vocal fremitus exaggerated. There were rhonchal and sibilant sounds generally throughout the chest, but nowhere crepitation. From such physical and general signs it was concluded that the child had pneumonia in an early stage; but so grave was the prostration and so enduring, notwithstanding free stimulation, as to suggest that there must be something more, as yet unseen, which would be presently revealed. The history obtained, partly from the patient and partly from his mother, an inaccurate, unintelligent woman, was to the following effect:—On the day before admission the boy went to school as usual. Between three and four in the afternoon he came home complaining that while on his way to meet his father, a big boy who happened to be passing had hit him a severe blow with his fist on the right side of the chest. He walked home with difficulty, perhaps a mile, feeling the pain, which movement seemed to aggravate. He had also headache and a sensation of nausea, and it was observed that he would restrain cough owing to the pain it gave him. On reaching home he rapidly grew worse, and, after a restless and feverish night, was brought to the hospital early next day in the condition already described. On a rough calculation some fourteen hours may have elapsed between the time of the blow and the time of admission, but so far as could be gathered only a very short interval between the assault and the appearance of serious symptoms. The apparent origin of the symptoms was sufficiently remarkable—especially, as will be presently seen, when these had fully developed—to make strict inquiry desirable as to the child's previous health; and accordingly, Dr. Thomson, by dint of much questioning, succeeded in eliciting from the mother, on her second visit, some important additions to her original statement. These were to the effect that the boy had "shivered a little two days before the blow"; that he had complained of his throat; and that the mother, who was far from being an anxious observer, had noticed that he "looked ill," and told him to remain at home; and, finally, that on Jan. 5th, three days before the blow, he had been out in the snow all day and got wet through. The after-progress and termination of the case may be dismissed in a few words. The day after admission all the characteristic signs of consolidated lung became apparent as regards the upper third of the right side. Prostration continued; the temperature on the third day reaching 104°. Then came a critical fall of six degrees on the fifth day from admission, and along with it all serious symptoms vanished, and a few days later the boy was convalescent. This crisis, it should be observed, corresponded with the sixth day of illness reckoning from the blow, with the eighth reckoning from the shivering, and with the ninth reckoning from the wetting.

Before considering the character of evidence which this case affords, let me glance for a moment at the authorities. Is external violence (short of lung laceration) capable of producing lung inflammation having all the characters of true lobar pneumonia as regards its course, duration, and end? Fully stated, that is the question. Grisolle, an excellent authority on matters of fact of this kind, hesitates; he hardly admits the possibility of such an occurrence, and uses *à priori* arguments against it; yet he quotes examples, as I will mention presently, of pneumonia resulting from heavy lifting. Dr. Frederick Roberts, also a valuable guide, owing to the wonderful discretion and impartiality with which he brings together the opinions of various authors, places "injury to the chest" among "the exciting causes" of pneumonia[1]. Dr. Bristowe speaks of "the direct action of mechanical irritation," but does not appear to include in this expression external injury.[2] Dr. Wilson Fox, in his well known Treatise,[3] says "injuries and blows to the chest are occasionally followed by pneumonia"; yet he admits that "the mechanism of such cases is obscure," and the single example which he supplies from his own experience is, as he himself seems to imply, far from conclusive. Of earlier authorities, Sir Thomas Watson dismisses the causes of pneumonia in precisely six lines,[4] and in none of the six does he mention injury. Going further back still, we come to foot-note references copied from author to author, and to which time and tradition have given a sanctity seldom invaded by any close inspection. Amongst these is a case quoted by Andral,[5] where the writer himself remarks that the almost complete absence of fever on the fifth day after the accident (a fall from a height) would have negatived the theory of pneumonia were it not for the sputum and the crepitant rale. Modern criticism might not irreverently suggest that at the time these words were written the new-born authority of physical signs was becoming too absolute, while an impartial reading of Andral's description leaves the impression, not that pneumonia was excited immediately by the fall, but that there was an interval of five or six days, and then a true pneumonia with crisis ("amelioration étonnante," in Andral's words, which even his treatment could not always suppress) on the fifth day. So far as authority goes, therefore, we shall violate no canon in regarding this question as an open one. The existing diversity of opinion was exhibited in a very practical way a few years ago in the course of a legal action, in which I was consulted, brought by the relatives of a man who had died of acute lobar pneumonia some two or three weeks after a railway shaking. Compensation was sought at the hands of the company, on the ground that the accident had directly contributed to the man's death; and the medical evidence appealed to on the occasion was described by sober observers as "conflicting."

The case we are now concerned with would seem, at first sight at all events, to give an affirmative answer to the question—Can injury cause pneumonia? After some search, indeed, I am unable to find another so explicit. At the time of the blow the boy was without complaint and walking the streets. It gives him violent pain and he gets home with difficulty. The general symptoms of pneumonia—dyspnœa, fever, pleural stitch—set in almost immediately, and a few hours later, when first medically examined, the physical signs of that disease are discovered. Here surely is proof, the sort of proof we are accustomed to rely on in such matters—better proof, I would go so far as to say, than is afforded either by Andral or Wilson Fox,—that a blow on the chest is a possible cause of pneumonia. And upon first information, in spite of previous experience and preconceptions, I felt compelled to adopt that view.

But further inquiry gave a somewhat different colour to the case. It was ascertained that four days before the injury the boy got wet through, and that he afterwards shivered and looked ill. Now, pneumonia from exposure to cold and wet is common enough, while pneumonia from a blow is, to say the least, very rare. In this contention of causes, therefore, we must prefer the former, and adopting that hypothesis the case stands thus: Pneumonia had already commenced in this boy's right lung when he was dealt a violent blow just over the seat of it. The effect of this violence, acting upon a deformed and yielding chest, was to add to the already commencing trouble a symptom of its own, general collapse; and as this collapse gradually yields, so the proper physical signs of pneumonia develop, until at length the affection declares itself in typical completeness.

A similar explanation would seem to apply not only to external violence, but also to violent muscular effort on the patient's own part. It applies, I believe, to examples quoted by Dr. Grisolle,[6] where pneumonia was attributed to lifting heavy weights. "A violent pain was immediately felt, and in a few hours symptoms of pneumonia declared themselves." Now, if it be difficult to conceive of severe accidents (laceration of lung being put out of the question) producing pneumonia, still more is it difficult to conceive that lifting a burden might have that result. But it is quite easy to suppose that sudden exertion of this sort might *discover* pneumonia. Such extra demand upon the muscular strength, and such extra inspiratory effort as heavy lifting demands, would be exactly calculated to find out a pneumonia which as yet, while the patient was at rest, had given little notice. In like manner other acute affections are sometimes brought to light by means of accidents which could have no possible share in starting them. I remember a sweep carrying forth his bag of soot one morning and falling heavily under its weight. He was brought to hospital in serious collapse, and found to be in the second week of enteric fever, of which he died.

[1] Roberts, p. 399, fifth edition. [2] Bristowe, p. 403, fifth edition.
[3] Reynolds's System, vol. iii., p. 615.
[4] Watson's Lectures, vol. ii., p. 89, third edition.
[5] Clinique Médicale, tome iii., p. 293.
[6] De la Pneumonie, p. 144.

But while it may be doubted whether either external violence, short of lung laceration, or sudden exertion, ever directly excites pneumonia, there is ground for the belief that both one and the other may give occasion for it. For there is a form of the disease of which the predisposing cause—sometimes so far as seems the sole cause—is deterioration of vital energy, a condition to which at present we can apply no more precise expression. Whatever lowers vitality invites pneumonia. In virtue of that principle, severe bodily injury, as well as over-fatigue or alcoholic excess or destitution, or even mental anxiety, may weaken the power of resisting the disease and make its invasions the easier. Pneumonia of this origin needs the more to be recognised, inasmuch as it is a grave and often fatal disorder with quite a different outlook from the pneumonia of exposure. To such category would belong, in my belief, the case just quoted from Andral, possibly also the case of the railway passenger, and other examples which I might quote from my own experience, where individuals debilitated by some injury, but apparently on their way to recovery, die quite unexpectedly by the intervention of a pneumonia of such limited area as to seem at first a mere trifle.[7] Considerations of this sort make us properly cautious in accepting injury or overstrain as efficient causes of pneumonia. Granting that individuals may be up and about in every stage of that disease,[8] granting also that the early symptoms of pneumonia—dyspnœa, pain on deep inspiration, and general muscular weakness—are precisely those which extra exertion or a blow directed against the chest or diaphragm would call into activity and prominence, and it is inevitable amongst a hardworking and boisterous race that accidents of this sort should from time to time call attention to the disease, and appear in the light of causes of the symptoms which they precede.

There is a further question, which I have here expressly excluded, in regard to injuries causing actual laceration of lung tissue, with or without rib fracture. Can such laceration set up true lobar pneumonia? I have no personal knowledge of such an occurrence. But my friend and colleague, Dr. Barlow, has been good enough to tell me of a case of his own which is possibly of that sort. A young stonemason had a heavy stone slab fall on his chest, knocking him down with a very severe blow, yet without fracture of ribs. "He was taken home, and within a day or two developed a typical apex pneumonia. This resolved, but after resolution there was a curious hectic temperature, a condition lasting a considerable time, the morning temperature being normal and the patient meanwhile feeling well and ultimately recovering perfectly." Dr. Barlow adds, "At the time I did not think much of the immediately antecedent injury, but I remember the fact very definitely." Even here it cannot be said for certain that the apex pneumonia was not an intercurrent affection due to the nervous shock of the injury. The facts might be taken in that sense by any reader with predilections of his own in reference to efficient causes of pneumonia. It is indeed the prevalence of predilection on one side or the other which makes the need for further investigation at the hands of independent observers possessed of the rare ability to keep their facts and their theories in separate compartments.

The sum of my contention comes to this. Pneumonia does undoubtedly sometimes follow injury, whether to the chest or elsewhere. In some instances the disease is not really caused by the injury, but only brought to light through its agency; in others it is its indirect consequence—due, that is to say, not to any immediate harm done to the lung, but to nervous shock which, whether it arise from injury or over-fatigue or any other cause, produces a condition of the system favourable to the development of pneumonia. Shall we say, then, that bodily injury is a predisposing but not an exciting cause of pneumonia? It may be so. But as a matter of fact, and notwithstanding that in a country like ours there is generally "weather" to appeal to, the exciting cause often escapes us. That cause, which we call in scholastic phrase "predisposing," be it injury or sewer-gas poisoning, or alcoholic excess, is all that we see. To us it is the *sole* cause. And so it may seem that I demolish the very distinction I have been insisting on. Not so. The distinction is a very real and tangible one, and it is intimately connected with the pathology of pneumonia. For if the relationship of cause and effect be of the nature I have tried to indicate, not only do we bring bodily injury, regarded as a source of pneumonia, within the compass of a large class of causes all acting through the nervous system, but, further, we go far to establish the fact that this pulmonary affection, the true lobar pneumonia of definite duration and orderly sequence of symptoms, is not a lung inflammation merely, but the local expression of a wider, and often of a nervous, disorder.

[7] See British Medical Journal, 1879, vol. i., p. 100.

[8] The number of instances in London alone where people are found in the streets dead or dying of pneumonia in an advanced stage, yet which has never been suspected, is not small. Hospital practice, though it gets a share of these cases, does not adequately represent their frequency. For that we must go to Poor-law infirmaries and coroners' inquests. And not only is this true of what is absurdly called "latent pneumonia," it is true of the acute disease as well, as the following example shows. A working man of middle age, well proportioned and developed as to his frame and muscles, who had been feeling out of sorts for some days, was yet able to take active part in a meeting for political discussion ending with whiskey-and-water. On his way home he met with a fatal accident, falling headlong down some stone steps and fracturing his skull. Post mortem, part of his right lung was found to be solid, and on section and microscopic examination it proved to be a specimen of typical benevolent pneumonia, probably in course of resolution.

## HYDROPHOBIA AND THE TREATMENT OF BITES OF RABID ANIMALS BY SUCTION.

BY SURGEON-MAJOR R. PRINGLE, M.D.,
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THE treatment now being carried on in Paris for hydrophobia in the stage of incubation, or, to write more correctly, the treatment of conditions which may possibly develop into hydrophobia unless successfully checked by a specific line of treatment, is most deservedly attracting the greatest attention, not only on the Continent, but in this country also; and if continued precautions are not taken to stamp out, or at all events to limit, the disease, by curtailing the means of disseminating it, the subject of this treatment, in the not very distant future, will call for some separate action on the part of the British Government for cases of hydrophobia in the British Isles. Hydrophobia is still in our midst, and only waits the means of propagation, lately supplied in the "plague of dogs," to enable it to burst into another epidemic. On March 19th the stringent police regulations regarding the muzzling and control of dogs expired, and, though these have been renewed in a less stringent manner, yet, as no steps have been taken as regards dog licences to limit if possible the increase of "uncared-for dogs," in a short time the numbers reduced by passage through the "lethal chamber" will soon be made up, and we shall then have again to face conditions peculiarly favourable to the rapid and extensive development of rabies. I yield to none in my fondness for dogs, but the question is *now* not one of likes and dislikes but of public health, and the statistics of bites inflicted by animals supposed to be rabid, if we may judge by those connected with M. Pasteur's experiments, exhibit a prevalence of rabies which appears to call for special action, and, as I believe, demands in the interests of the public health a continuance of the present police regulations on the subject.

Acting on the advice of friends, I have been induced to condense the remarks I made at the meeting held in the Sanitary Institute in London last month, when Professor Horsley read his paper on Hydrophobia. On this occasion I took up the subject of treatment by suction in the case of bites inflicted by rabid animals, as opposed to the ordinary method of applying caustic, or even the actual cautery; and in bringing the following to the notice of the public through the columns of THE LANCET, I do so in the earnest hope that that which was so successful in my own case and in those I shall give hereafter may prove equally so in others. It is sad to think that the present means employed to destroy the virus of hydrophobia seem to be so utterly useless, that to be bitten by a mad dog *now* means a certain looking forward to the most distressing and painful of deaths. In gratitude, therefore, for my own escape, and I repeat in the earnest hope of being able to impart to others the sense of security, or rather immunity, which I realised in an epidemic of hydrophobia, even when having to attend cases of the disease (and this ere the six months had passed since I had been bitten by an undoubtedly mad dog), I enter into the details of the treatment in question, and shall endeavour to do so in a manner which will enable

all to practise it, with, I doubt not, the same success which attended my own case.

The other day several people were bitten by a mad dog at Peckham, and more would have been similarly injured had not a brave workman, *pro bono publico*, courageously seized the dog and despatched it, though not before it had bitten him in thirteen places! During the year 1885 I collected the newspaper notices (of which several were inquests) of every case of rabies which has occurred in and around London, and an analysis of these discloses some remarkable data regarding the primary treatment of the bites, and the apparent utter futility of the means employed, I might say in nearly every case almost immediately after the bite was inflicted, to prevent fatal absorption of the poison into the system; and perhaps the saddest feature in these melancholy records of suffering is the fact that, judging by analogy, had the treatment I adopted in my own and the other cases, given in detail hereafter, been carried out, some, if not all, of the sufferers might have escaped the most painful disease to suffer from, and the saddest to witness. In every case except one, that which occurred at Blackheath, and proved fatal with the most distressing symptoms, either caustic or the actual cautery seems to have been used, and we are informed that the wounds healed without at the time any unfavourable symptoms, and yet *in every one of these cases rabies followed and proved fatal.* Another point is worthy of note: in one case in London four persons were bitten by the same dog, and the period of incubation in each case was different, as the record of the fourth closes with—"This is the last of the four persons bitten by the same dog, and all have died of hydrophobia." This variety in the period of incubation is an important point for M. Pasteur to note, as it would tend to the conclusion that the period of incubation is regulated by individual circumstances and conditions in a manner and to an extent not noticeable in any other disease that I know of, the period varying in my own observations from three weeks to six months. There are other important points to which I might draw attention, observable in the previous histories of the dogs affected, which are carefully given in some of the cases, but it would require too much space to allude to them here. The chief objects I have in writing are—(1) to point out the treatment which has been eminently successful in my own practice after bites inflicted by cases of unquestionable rabies in a man, a dog, and a jackal, and particularly in the case bitten by the jackal, which seemed to be a perfectly hopeless one; and (2) to advance an opinion as to the probable cause of the present extraordinary prevalence of rabies, which would seem to be almost epidemic, and the best means of stamping it out. The pattern cases which I will take to illustrate my treatment occurred in India, and were as follows. The first, that by a dog, was my own case; the second, that by a man, happened in the person of one of my native medical subordinates; and the third, that by a jackal, was the case of a native gardener.

In 1860, when in medical charge of the station of Cuttack, in Bengal, while sitting at breakfast, and now and then giving my little dogs, which were house dogs, something to eat, a little English terrier suddenly dashed across the room from one of the corners and seized my hand, putting a tooth nearly through one of my fingers, and having done this rushed out of the room. This little dog was the favourite of all, and I at once concluded that it must be mad to have done what it did, and, taking my knife out of my pocket, laid my finger open where the tooth had entered, and then when the blood flowed sucked the wound and spat out the blood. I also applied a ligature to the base of the finger and got some tepid water, and putting my hand into it made it bleed freely and continuously, and then, when it had, as I thought, bled sufficiently, bound up the wound. I did not kill the dog, but had it caught by means of a light bamboo suddenly and carefully dropped over its back, and, slipping a collar (with two light but strong chains attached) over its neck, safely secured it, as I was naturally anxious for my own satisfaction if possible to prove the dog was not mad. All was in vain; I kept the animal alive for three days by dipping a sponge in strong soup and then presenting it to the dog, who seized it, thus making him unintentionally swallow the amount which he squeezed out of the sponge by the bite. Now, in this case there could not be a doubt that the dog was mad when it bit me, though, of course, it may be urged that perhaps there was not enough poisoned saliva to infect me, and every case of recovery is open to this question. But judging from the appearance of the dog when caught, I am satisfied that the promptness and thoroughness with which I extracted the poison was the means of saving my life.

The second case, that of the chief native medical subordinate attached to the Station Hospital at Cuttack, occurred some five or six weeks after I was bitten, and, being the medical officer in charge of that hospital, I had an opportunity of watching the case throughout. A poor native suffering from hydrophobia was here admitted, and his agonies were such that I ordered a sedative to be given. The sight of the fluid brought on a violent paroxysm of spasm, and, with a shriek more like the yell of the animal that had bitten him (a jackal), he seized the subordinate by the back of the hand with his teeth, though he quickly let it go, and no time had to be lost in treating the subordinate, who, as was to be expected, was in the greatest alarm. I had the hand at once washed with tepid water, and a ligature applied round the wrist. I then with a knife made all the portions of injured skin bleed freely, and after seeing that the subordinate had no injured surface on the lips or mouth, induced him to suck the wound, which he did, and subsequently I applied a cupping-glass, and when I felt sure all the poisoned saliva had been removed, I dressed the wound in the usual manner, and, as in my own case, it healed up rapidly, and was followed by no bad consequences whatever. When we remember how very trifling a scratch will suffice to satisfactorily admit vaccine lymph, if active, into the system, we cannot be too careful in our search for the marks of dogs' teeth. Till death ended the sufferings of the patient in the hospital, he had to be held by the knot of hair on his head usually worn by natives of Orissa, as involuntarily, apparently, he tried to bite, with the view, I suppose, of preventing fluids being given to him, as he knew the suffering that followed the attempt to swallow them. In this case there could be no possible doubt about the quantity of poisonous saliva present when the bite was inflicted, as it was trickling from the poor sufferer's mouth, and yet the treatment effectually prevented any of the virus finding its way into the system of the subordinate.

The third case was the most serious of all, and occurred while I was encamped in the Government Botanical Gardens at Saharupur. The man was raking under a bush, when a jackal rushed at him and seized him by the cheek, and, inflicting a fearful wound, ran off into the gardens. The cry of "mad jackal" was raised, and the gardeners soon finished him, as he had apparently laid down under the bush to die when disturbed by the rake, and was so weakened that he was soon run down and killed. When I saw the animal there could be no doubt of this being a case of hydrophobia in the last stage, and when the man was bitten the poisoned saliva must have been in large quantities on the animal's mouth and lips. My tents were a hundred yards distant, and the man was brought to me at once. The wound had a dreadful appearance, and it seemed hopeless to think of removing all the virus. There was, however, only one bite, which included almost the entire cheek. I first of all washed the cheek and wound with tepid water, and then with a knife from my pocket-case made the parts bleed freely wherever the teeth had entered, and by means of a tumbler and a little spirits of wine extemporised a cupping-glass. There was, however, a spot where this mode of extraction could not be applied, and I felt nothing but the mouth could extract the poison here. Immediately the man was brought to my tent and I had seen him, I asked if he had any relatives in the gardens, and on being told he had a brother I sent for him at once. When he came, after examining his mouth and lips to see if they were free from conditions likely to favour absorption of the poison, I pointed out to him how he might hope to save his brother's life—viz., by sucking out the poison in the part where I could not apply the extemporised cupping-glass. He at once put his mouth to the wound and sucked it freely. When I thought he had removed all the poison, I dressed the wound in the usual way, and it healed quickly. As a precaution after each suction of the wound and spitting out of the blood, I made the man thoroughly rinse his mouth with tepid water. I heard of both these men years after, and was told they neither of them ever suffered in the least, either from the bite or the suction of the wound. In this case I used neither caustic nor the cautery, as I felt to be effectually applied they would almost certainly lead to the sloughing of the cheek. The result of the suction proved that it was most successful and simple,

while in every case this mode of treatment facilitated and expedited the healing action in the injured, it may be lacerated, parts. I dwell at length on this case, as it is a characteristic one as regards the treatment I recommend, and undoubtedly seemed a peculiarly hopeless one. I can only add, therefore, that none need despair after the recovery of this case and the harmlessness of the operation of suction. Without doubt it is always better for the person bitten to suck the wound himself; when this is impossible, as in the case of the gardener, then the act of suction can be safely done by others, if the precautions taken in the case of the gardener's brother are carefully carried out.

During my thirty years' service in India, being very fond of dogs, I had not only a considerable number, but also a great variety, and among them only two cases of hydrophobia occurred: one, the case of the terrier which bit me, and the other that of a well-bred spaniel, which I used for pheasant shooting in the Himalayas. The case of the former exhibits the treatment I recommend, and that of the latter the mode of preventing the disease spreading. These two dogs illustrate also the very opposite symptoms as regards their behaviour to their master. The terrier, my pet dog, without any cause or warning other than sulking for a little time, rushed at me and bit me; the spaniel, my sporting companion, passed me on the road, as if it wished to avoid me. I at once felt something must be wrong with the dog, and on my return home the servants told me it was missing. On looking for it near the house, I saw it lying in the shade of a bush, gasping, in a condition of fully developed rabies, and, getting a gun, I shot it at once, before it had started on its mad race and bitten, and thus infected, either man or beast.

Now I would close with a word or two regarding what seems to me the cause of the present epidemic of rabies and the mode of stamping it out. Though nothing but the virus of rabies can produce rabies, yet when segregation favours the spread of the disease, as is the case now, an epidemic quickly results. My Indian experience has satisfied me that if the subjects likely to be affected are limited, the tendency of the disease is to die out, otherwise rabies would be an alarmingly common disease in that country, whereas it is, everything considered, a rare disease. Rabies, without doubt, is a disease due to a special virus, and not to conditions of living or food, otherwise I should have seen numbers of cases of the disease among the dogs and jackals at Juggernauth, where, at certain periods of the year, the food of these animals used to be human corpses, generally the victims of cholera, and little else, and yet among these dogs and jackals in their natural state I never saw a single case of the disease in four years. Thus it will be possible to stamp out the disease, not by removal of the conditions credited (?) with the production of the disease (as if they exist they are unknown further than the insertion of the virus), but by the reduction of the causes which propagate it, and which have lately increased to an extent which would have been incredible had not the results of the late police action told in unmistakable terms what a "plague of dogs" we have been suffering from. One case of rabies till very lately had the power of propagating the disease to an extent which was impossible thirty or forty years ago. Let us, therefore, aim at reducing the number of uncared-for dogs to be met with by a dog suffering from rabies, and we shall then reduce the cases of the disease, till the last mad dog is put an end to, before it has spread the contagion; but this can never be the case with such numbers of uncared-for dogs about. The owner of a dog exhibiting suspicious symptoms should be obliged to place it under supervision, or be answerable for it, so that if rabies is developed, while under this supervision the dog may be destroyed and the possibility of that characteristic symptom of hydrophobia, the mad-dog race, which is the most fertile source of the dissemination of the contagion, effectually prevented.

Blackheath, S.E.

A FEW days ago a beautiful obelisk of red granite, erected by a few friends to the memory of the late Dr. Alexander Hogg, of Workington, in the new cemetery of that town, was unveiled with appropriate ceremony. Dr. Hogg was medical officer of health for the town, and during his short but successful practice of four years and a half endeared himself to all. He died on Nov. 2nd, 1883, while on a visit to his father's house, Larbert, Stirlingshire, at the early age of twenty-six years.

## A CASE OF DELIRIUM TREMENS CAUSED BY CHEWING TEA.

BY W. B. SLAYTER, M.D., L.R.C.P. LOND., M.R.C.S. ENG.,
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ON November 10th, 1879, I was summoned by a lady to see her female servant. The girl complained of sleeplessness, nervousness, and repeated twitchings of the muscles of the face and extremities, which would continue for several minutes at a time. These symptoms had been present for several months previously. Her mistress informed me that the girl had been acting strangely for several days. She was wandering in her mind at times, and imagined people and evil spirits were about her seeking to do her harm. She had not slept for several nights, and on one or two occasions had been found at night wandering about the house. Pulse 96 and small; tongue dry and brown; eyes suffused; irregular action of the heart-weight at præcordia; sallow complexion. A dose of bromide of potassium and hydrate of chloral gave her a good rest for the night, and next morning she was sent home to her mother.

At 4.30 A.M. on the 13th I was again summoned to see her. Some men had found her walking about one of the wharves of our city, in the neighbourhood of her mother's house. They tried to persuade her to go home, but she broke away from them and endeavoured to jump off the end of the wharf, when she was caught and taken to her home. I found her with a pulse of 110°, a very dry and brown tongue, suffused eyes, no marked increase of temperature, violent delirium, and tremulous hands and arms—in short, the well-marked symptoms of delirium tremens. Her mother informed me that she had complained of a good deal of pain in the abdomen, and on examination I found a smooth, quite hard tumour in the right iliac region, half as large again as an ordinary orange. Owing to the violent delirium I was unable to find out whether it was tender to the touch or not. A hypodermic injection of morphia somewhat relieved the nervous symptoms. A brisk cathartic brought away a mass of hardened fæces, followed by a large quantity of a thickish tarry-looking excreta, which seemed to be made up of tea-leaves in different stages of maceration, quite a large proportion, probably a third, being tea-leaves quite unchanged in appearance or colour. Bromide of potassium and chloral in a few days quieted the nerve-centres; good nursing, proper diet, and tonics soon restored the patient to her usual health. After the action of the cathartic I found the abdominal swelling somewhat lessened in size, but it was not until several doses at intervals had been administered that the tumour entirely disappeared. After each dose a quantity of tea-leaves were expelled. In about three weeks the evacuations were normal in appearance, and her general health was fairly restored.

I had lost sight of this patient until October last, when I was once more summoned to see her. It is not necessary to again enter on a history of the case. The same well-marked symptoms of delirium tremens were present; there was no tumour to be found, but the evacuations contained a plentiful supply of tea-leaves. The same course of treatment soon restored her to health, and I trust a longer continuance of tonics and building-up treatment may succeed in preventing a recurrence of the symptoms. The patient informed me that when about seventeen years of age she went to one of the New England towns to work in a factory, and there contracted the habit of chewing tea—a habit, she stated, quite common amongst the factory girls. She thought she chewed on an average about half a pound of tea daily, and some days more. It made her feel better able to work. Of course, as to quantity her estimate may not be depended on. She had never been addicted to alcoholism, and ascribed her attacks solely to the tea-chewing. She tried to give it up, but felt so nervous and fidgety as to be compelled to return to the old habit. This second attack caused me to copy from my case-book the notes taken at the time. The only points of importance are the *cause* and the *repeated and continuous muscular twitchings*. Of course most physicians have met with many cases of great nervousness and fidgetiness occasioned by excessive tea-drinking, but I cannot find any record in any of the works on medicine or materia medica within my reach of such severe symptoms being induced by tea-chewing. Ringer tells us that "the

Physiological Committee presided over by the late Dr. Hughes Bennett concluded that the *motor nerves are unaffected*." The long-continued repeated muscular twitchings would seem to contradict this portion of the committee's report.

## ROTHELN: A POINT OF DIAGNOSIS.

By JAMES GREY GLOVER, M.D.

THE extreme infectiousness, notwithstanding the comparative harmlessness, of German measles makes it very desirable to find early indications of its presence. I have been struck lately in two or three cases with the fact that the earliest symptom to excite the notice of the patient has been a swollen gland in the neck at the back of the sterno-mastoid muscle. One young lady lately consulted me about such a gland of a considerable size, and without any obvious explanation in its neighbourhood. Four days later the rash of Rotheln appeared and explained the mystery, and the single gland had become the usual chain on both sides of the neck. When the disease is prevalent, or already exists in a family, and a swollen cervical gland in a young person appears without obvious reason, it may be suspected that the disease is already in the system. The occurrence of cervical glandular enlargements is of course one of the commonest and most interesting notes of this least pyrexial of the eruptive diseases, and the early appearance of the symptom coincidently with the rash, or even a day before, as Dr. Goodhart describes in one case, is also known. But its appearance four or five days before the eruption seems worth noting for diagnostic purposes.

Highbury-place, N.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## SEAMEN'S HOSPITAL, GREENWICH.

ULCERATIVE ENDOCARDITIS; ANOMALOUS SKIN ERUPTION; INTESTINAL ULCERATION; DEATH; NECROPSY.

(Under the care of Dr. CURNOW.)

DURING the last few months, especially since the delivery at the Royal College of Physicians of the lectures on Malignant Endocarditis, we have published several cases of ulcerative endocarditis, but none of them have presented the unusual features of the following case, which is well worthy of record. The difficulty of diagnosing the exact cause of the disease in the absence of evidence of cardiac mischief was insuperable. We are indebted for the following notes to Mr. E. H. Booth, M.B., house-physician.

James K——, aged forty-five, was admitted on March 12th, 1886. On examination his condition was found to be as follows: He was lying deep down in the bed; face flushed; pupils dilated; excited and delirious—so much so that all attempts to procure a history failed. His tongue was rather enlarged, red, dry, and glazed. Temperature 103·5°; pulse 120, very weak and fluttering. Decided œdema of feet and ankle; effusion in both knee-joints; well-marked purpuric rash on both legs, mostly on the inner sides; purpuric blotches on the inner side of the thighs, and a few purpuric spots on the front of the thighs. There were erythematous patches with petechiæ over the parts exposed to pressure—i.e., over both hips, shoulders, and elbows. There were a few livid red patches over some of the joints of the hands. A few petechiæ were scattered over the surface of the abdomen and chest, also a few spots, looking very much like typhoid spots in character. His abdomen was distended and tumid; resonant all over. During the first night he was in the hospital he passed a very loose stool, greenish, and tinged also with a little blood. Heart listened to very carefully; beating rapidly, and sounds very feeble; no bruit to be heard. Chest resonant all over; moist sounds at both bases; no other physical signs. Urine very acid; sp. gr. 1026; loaded with albumen; deposit of urates; no blood or casts.

It was thought that the patient might be suffering either from pyæmia or severe typhoid. He was given five grains of quinine every four hours, and twelve ounces of brandy were ordered. His temperature, taken every two hours, kept between 103° and 104°, in spite of wet packing. He gradually sank, and died on the night of the 13th.

*Post-mortem examination.*—A good deal of cadaveric lividity. Rigor mortis marked. Abdomen opened. The small intestines were rather distended; pale, but presenting at intervals patches of congestion pointing to ulceration. The intestines were opened up, and there were discovered about fifteen to twenty ulcers; the majority of these were round, with ragged edges; each ulcer was surrounded with a large patch of congestion; at one or two places the ulcers were longitudinal in direction, and occupied Peyer's patches. At a few other places were patches of congestion, and in the centre of each patch a small grey hard nodule about the size of a pin's head, and not unlike tubercle in appearance. Most of the ulcers were in the lower part of the ileum, but one or two small ulcers existed near the duodenum. Heart: Old pericarditis, there being dense adhesions over most of its surface; the pericardial cavity remaining contained a small quantity of semi-purulent matter; heart not enlarged; right side normal; aortic valves thickened, especially towards the edges; mitral valve thickened; along the edges was a continuous fringe of fine granulation and ulceration; at one spot the ulcer was about half the size of a threepenny piece. Kidneys enlarged, pale; capsules not adherent; all over the surface were seen a number of small yellow spots, each surrounded by a halo of congestion, each spot being a minute abscess; on section it was pale and dotted all over with minute abscesses and points of congestion. Spleen much enlarged; about three times the normal size; very soft and congested; no infarcts to be distinguished. Lungs very œdematous and congested; almost black with congestion towards bases; no infarcts to be distinguished.

The case is of peculiar interest from the difficulty in arriving at a diagnosis, the anomalous character of the eruption, and the numerous ulcers in the intestines from infarcts carried from the diseased valves. It is most uncommon to find so many intestinal ulcers from this cause.

## ST. GEORGE'S AND ST. JAMES'S DISPENSARY.

CASE OF ERYTHEMA NODOSUM; REMARKS.

(Under the care of Dr. FRANCIS HAWKINS.)

MARY D——, aged thirty-five, married (no children), tailoress, born in London, was admitted on Aug. 30th, 1885, complaining of sore-throat, thirst, anorexia, and constipation. She had been ill about one day. Her father was a Pole. He died from abscess of the lung. Her mother, a Frenchwoman, died in an asylum. She has four sisters. Two are quite well and have never been ill. One older than herself had an illness (erythema nodosum) similar to her own four years ago. The other sister, also older than herself, had a fit four years ago; the medical attendant pronounced it epilepsy. She has had frequent repetitions of the fits, and last August was placed in an asylum, where she still remains. There is one brother quite well. There is no history of rheumatism ever having occurred in the family. Her home is comfortable. She works at her calling away from home. Eleven years ago (at the age of twenty-four) the patient had pains and swelling in the ankle-joints, and a few red painful spots on her legs. Her medical attendant informed her she had rheumatic fever, but she was up and about the whole time. From this attack she entirely recovered, and remained perfectly well until four years ago (at the age of thirty-one), when she felt weak and had sore-throat, for which she went as an out-patient to King's College Hospital. Three days after attending there she felt pains in her joints, and some spots came out on her legs, similar to the spots which came out seven years previously This time the spots came out on the arms as well as on the legs. (It was about this time that her sister also had pains in her joints and spots on her legs similar to those on the patient; her sister has never had a second attack.) From this she soon recovered, and continued quite well until the 30th of August, 1885, when

she was admitted to the dispensary complaining of sore-throat, &c. She is a stout woman, with a full, red face, and dark hair.

The patient was treated for ordinary sore-throat, and in three days returned complaining of having spots on her legs. At this time she had one spot, red, prominent, and very painful when touched, situated over the right tibia; and one over the left tibia, similar in character, but smaller in size. On Sept. 2nd she complained of much pain from these spots, and, being unable to walk, took to her bed. On the right leg was a swelling about the size of a hen's egg over the anterior border of the tibia, elevated, red in the centre, resembling a bruise at the circumference, and very painful to the touch. On the left leg was a similar but smaller swelling over the tibia and near the ankle. Smaller spots, but of like character, existed over the styloid processes of the right and left ulnar. There was no marked heat or increase of temperature.

Sept. 8th.—Left arm: One spot between the second and third phalanges of the left hand; a few spots on the outside of the arm near the insertion of the deltoid. Right arm: Wrist swollen, and very painful; elbow also swollen; some spots on the arm. Left leg: Bruise-like appearance of spot, as before mentioned; fresh spots on inside of leg and behind the knee. Right leg: Same spot present, and still looking like a bruise.

12th.—Fourteen spots on left arm, mostly on the extensor surface. Spots on leg still present. Right arm: Twenty spots, varying in size from that of a pea to that of a sparrow's egg. Wrist and elbow-joints still somewhat swollen, but less painful.

18th.—The spots all present, presenting a bruise-like appearance.

22nd.—Spots very faint. Patient got up on the 21st. On each occasion of a note being made the temperature was taken, but on no occasion had it risen. Circulatory system: No cardiac murmur perceptible. Urinary system: Examined on first occasion only; urine then clear; no albumen.

*Remarks by* Dr. HAWKINS.—While there is no history of rheumatism or rheumatic tendency in the family antecedents, we have a marked neurotic history, the mother having died in an asylum, and a sister having epilepsy frequently for four years, and then having to be placed in an asylum; then we have erythema nodosum in another sister; and we have recurrence of the disease in the case under review—the first time when twenty-four years old, the second when thirty-one years old, and the third when thirty-five years old. The former attacks were, I think, beyond doubt erythema nodosum; the patient herself recognised the resemblance between this attack and her former ones, and the resemblance of her disease to that from which her sister suffered four years ago. This case may be said to resemble rheumatic fever in the following points: Thirst, anorexia, constipation, and sleeplessness; the appearance of the spots and swelling of the joints being preceded on two occasions by sore-throat, then pain and swelling of the joints. It differs, however, from rheumatic fever in there being no rise of temperature and no sweating; and there was no cardiac affection left.

## MOUNT GAMBIER HOSPITAL, S.A.

### ABSCESS OF BRAIN; CYST CONTAINING NECROSED BONE; DEATH; NECROPSY; REMARKS.

(Under the care of Mr. A. WORSLEY POWELL, Assistant Colonial Surgeon and Medical Officer.)

H. V——, a German, aged twenty-six, three years resident in the colonies, was brought to this hospital by the police on the evening of Feb. 18th. Before the police found him it appears he had been lying in a tent for three days unattended and in a semi-comatose state. When reported Dr. Ockley of Penola was sent for and ordered the man to be removed to this institution. Dr. Ockley's notes are as follows:—"H. V——, semi-comatose, with loss of speech. Pupils contracted, with only semi-sensibility. Evidently oppression on brain, probably embolism from some injury or obscure obstruction of the circulation. No opportunity for treatment. Forwarded to Mount Gambier Hospital."

On admission the deceased, aided by a porter, walked to his bed, but he could neither speak nor hear. He seemed in a state of great stupor. Temperature 104·6°. Pupils contracted and insensible. He passed a very restless night, tossing about and moaning continually. There was no paralysis.

Feb. 19th.—At 6 A.M. by signs he asked for his trousers, seemed much better, and drank some milk, the temperature being 104·8°. He sat upright in bed for nearly half an hour but still could neither speak nor hear. Questions were written, but he did not seem to understand them, making no signs in reply. When asking for his trousers he pointed to his legs and then to some trousers belonging to a patient in the next bed. When his trousers were brought he put them on and seemed satisfied. At 7 A.M. he had a slight epileptiform seizure and relapsed into a semi-comatose state. At 4 P.M. he had strong convulsions, vomited a large quantity of watery fluid, and died shortly after midnight.

*Necropsy.*—Body well nourished. No external marks of injury either on head or trunk. No traces of syphilis. When removing the skull-cap the saw ran through the left parietal bone immediately above the ear, and a large quantity of pus (greenish in colour and of offensive odour) rushed out. The bone here was but a mere shell, and for a space of about one inch in circumference could easily be broken with the finger-nail. The dura mater was very firmly adherent to the bone and could not be separated over a space of about two inches square. The finger, when introduced into the opening whence the pus was coming, passed immediately into a large cavity, the size of a small orange, the cavity leading into the lateral ventricle. About midway, lying loosely in this cavity, a cyst was found. It was hard, black, and resembled in size and shape a small Barcelona nut. It measured an inch and a quarter in diameter. On opening the cyst, the membrane of which was very tough, there were found three small pieces of necrosed bone. The pus and bone were, of course, verified under the microscope. The heart and lungs were quite healthy; the liver was very much congested, and weighed 5½ lb.

No history concerning the deceased could be gathered by the police, but on the day following his death a friend who had emigrated with him, and had been his constant companion for some years, was seen by Mr. Powell, who obtained from him the following history: When deceased was fourteen years old he fell from a ladder on to the iron wheel of a barrow, striking his head. He was unconscious for some days, and very ill for over two months. Since then he had had frequent "fits," which left him weak for two or three days. He had had none of these "fits" after coming to the colony until about fourteen months since, so that there was an interval of nearly two years. He suffered greatly from his head, complaining of constant and violent headache. He had frequently taken medical advice for this, but always without relief. He also complained of being severely troubled by cramp. He was a temperate, hard-working man; could do a hard day's work with any man, except for a few days after the "fits." He had been working up till February 13th. He never had any symptoms of paralysis.

*Remarks by* Mr. POWELL.—I am not aware whether any similar case is recorded. In vol. i. of "Holmes's System of Surgery," third edition, a case is mentioned of a cyst containing pus following diseased temporal bone. In this case there was no disease of the ear, there had never been any discharge from it, and the temporal bone was quite healthy. There was no sign of any scar on the scalp over the injured bone. It seems marvellous that in such a case the man should be able to work and go about with all his faculties unimpaired until a few days before his death.

# Medical Societies.

## MEDICAL SOCIETY OF LONDON.

### *Littre's Hernia.—Simple Meningitis.*

THE last ordinary meeting of this Society was held on Monday last, Mr. R. Brudenell Carter, F.R.C.S., President in the chair.

Mr. J. H. MORGAN read a paper on a case of Littre's Hernia. Having described Littre's original cases, he proceeded to relate his case, which was interesting, in addition to its rarity, from the circumstance that no gangrene of the herniated portion of the intestine occurred. The patient was an elderly woman aged sixty-four, who had suffered from constipation for from two to three years, and had also wasted considerably. Some blood was passed per rectum from time to time. Purgatives and enemata were ordered

to overcome the constipation, but tenesmus, with the passage of blood and mucus, only resulted from this treatment. Some umbilical pain was complained of. She was admitted into Charing-cross Hospital in a state of exhaustion. There was no local tenderness at any part of the abdomen, and but slight tympanites. A large flaccid protrusion of the vagina containing bowel presented many excoriations on its mucous surface. There seemed to be no reason for regarding the obstruction of the bowels as situated in the vaginal protrusion. Belladonna and opium were ordered. The temperature was 97° and the pulse 92. There was little vomiting, but it was stercoraceous on one occasion. Mr. Morgan performed a limited laparotomy, and the colon was found collapsed, but the patient was not able to bear further operation and died the next day. At the necropsy the lungs were œdematous and the left ventricle of the heart hypertrophied. There was a Littre's hernia, involving but a small portion of the circumference of the small intestine, and protruded a short way into the femoral canal; there was no gangrene of the herniated protrusion. The uterus was greatly atrophied; there was double rheumatic arthritis of the hip-joints. The symptoms as described by Littre were detailed, showing that in this form of hernia the bowels acted regularly; there was seldom hiccough and vomiting, which was never stercoraceous; the herniæ never attain a large size. In Mr. Morgan's case several of the alleged symptoms were wanting, and the case looked more like one of malignant disease of the colon.—Mr. FREDERICK TREVES pointed out that the name of the surgeon was Littre (without an accent), who flourished in 1700. He believed that Littre's first case was really a Meckel's diverticulum, which had become filled with concretions, and contained in a hernial sac. Most of Littre's hernias were of femoral origin, and occurred more frequently in females; it was limited to enterocele, the omentum not being involved, and more common in old than recent hernia. The obstruction of the intestines in strangulated hernia was probably not mechanical, but due to nervous influences. He considered that in Littre's hernia the symptoms were the same, though milder than those of ordinary strangulation. In cases of operation for strangulated hernia, Mr. Treves said that he now generally adopted a method which appeared to him to give the very best results in the way of combating collapse, especially in old people. The stomach was emptied of its feculent contents by means of the stomach-pump, and about a pint of hot water used to wash the organ out thoroughly. In addition to removing collapse, it prevented the vomiting due to the anæsthetic. The injection was made just before the abdominal sutures were inserted.

Dr. W. H. DAY read notes of two cases of Simple Meningitis. The first case was that of a girl aged twelve, who had all the symptoms of tubercular meningitis. The post-mortem examination showed intense congestion of the pia mater, without any tubercles to be detected by the naked eye. Enlargement of the glands of the abdomen was the only other abnormality detected, and this was said not to be tubercular. The second case presented similar difficulties in diagnosis; it was also a girl, aged ten.—Dr. ISAMBARD OWEN asked on what precise anatomical points he had established the diagnosis of meningitis in the first case, which had lasted for fourteen weeks.—Dr. C. H. F. ROUTH testified to the difficulty of diagnosis in the early stage of diseases of children.

## ACADEMY OF MEDICINE IN IRELAND.

*Duties of Medical Officers of Health.—Muscular Anomaly of Right Upper Extremity.—Nerve-supply of Short Muscles of Thumb.*

IN the sub-section of State Medicine, held on Feb. 4th, the PRESIDENT (Dr. Jacob) delivered an address on The Poor-law Medical Charity System of Ireland.

Dr. EDGAR FLINN read a paper on the Duties of Medical Officers of Health in England and Ireland contrasted. He referred to the great disadvantages under which the Irish health officer laboured in the execution of his duties, and deprecated the system of appointing dispensary medical officers as medical officers of health, and the paltry stipends of ten and fifteen pounds a year that they received. There were few medical officers of health who took any great interest in the sanitary condition of their districts, and those who furnished their boards with monthly reports were unheeded, and but scant notice taken of their suggestions. In England, on the contrary, the recognised duty of the urban or rural sanitary authorities was the health of the people; the medical officer of health was obliged to make monthly or fortnightly reports, which were duly discussed, and the officer's suggestions promptly acted upon. The sanitary condition of the towns and villages throughout Ireland showed very plainly to the most careless observer whether the provisions of the Public Health Act were carried out and enforced or not. It was yearly becoming more evident that the Irish Local Government Board would have seriously to consider the question of districts and unions being combined for the better administration of the Public Health Act. In lieu of there being such a plurality of medical officers in each district and union, with a superintendent medical officer of health, there should be one or, at most, two who should be men free from the cares of practice, with special sanitary knowledge, and whose pecuniary interests would not be perpetually at war with a fearless discharge of their duties. This combination of districts had worked very well in England, and it was one of the main reasons why the Public Health Act was so thoroughly and efficiently carried out. The same combination of districts should hold good in Ireland.—The REGISTRAR-GENERAL said he was one of the earliest persons who took an interest in promoting the very service which Dr. Flinn had condemned. One of the reasons for adopting the present system at the passing of the Public Health Acts, 1874-78, was that the English system had worked so badly that it was desirable to try something else in Ireland. The best health officers had to retire consequent on the authorities letting that system go to pieces. The want of independence of Irish medical officers applied equally in England. If the medical officer were not paid a large salary, or had no private practice, he could not be independent; and if in private practice, there was a possibility of some of his patients being on the board. The unions in the west of Ireland could not supply funds to maintain public health officers independent of private practice. There were reasons why the dispensary medical officer should be also the best officer of health. In a large number of infectious cases the dispensary doctor was the medical attendant, and he was accordingly enabled at once to isolate such cases and stop the spread of the disease. Thus the notification of the infectious disease was avoided, and the necessary precaution taken, without the difficulty experienced in cases of compulsory notification by an independent practitioner. Moreover, the dispensary doctor saw many things dangerous to health as he went through his district, and these he remedied at once. Hence the advantage of combining the two offices. Apart from certain difficulties and occasional mistakes, there was in Ireland the best sanitary system of police that existed in the world.—The PRESIDENT said he was in the happy position of concurring with both Dr. Flinn and the Registrar-General. The Irish system deserved many animadversions, while, at the same time, he was sensible of the desirability and importance of having the medical officer of health one and the same with the dispensary medical officer. In Ireland there was a corps of 800 officers, who went every day in the week into places where there was most likelihood of the existence of dangers to health. They were their own informants, and therefore he preferred a widely scattered service, such as the Irish dispensary service, to a concentrated, centralised service, such as Dr. Flinn advocated. But the Irish medical officers were badly paid, and worked under discouragement.—Dr. FLINN, in reply, said he bowed to what Dr. Grimshaw had said, but, at the same time, repeated, from what he had seen here and from his experience in England, that he could not forego what he had stated in his paper. In England the combination of districts had been a success. The districts were well managed, and there never was any difficulty.

In the sub-section of Anatomy and Physiology, held on Feb. 11th, Dr. BROOKS exhibited the Pisi-uncinatus Muscle, as one of exceptional rarity, which he had discovered in dissecting a hand.

The Chairman (Dr. HEUSTON) made a communication on a Muscular Anomaly of the Right Upper Extremity, which consisted of two sets of muscular fibres, the lower of which passed from the latissimus dorsi across the first stage of the brachial artery, while the upper, taking origin from the cartilages of the sixth and seventh ribs, crossed the axilla

and third stage of the axillary artery, to be attached with the former set of fibres into a broad triangular tendon, the external border of which passed over the biceps and pectoralis major to be attached into the deltoid, while from its inferior angle a tendon passed to the internal condyle of the humerus.—Dr. FRAZER asked what was the exact relation of the upper muscle as a homologue to the third pectoral found in birds of powerful flight?—Dr. BROOKS considered the chondro-epitrochlearis as a very rare muscle. In two or three sessions of hard work he had not met with a single specimen.—The CHAIRMAN, in reply to Dr. Frazer, said none of the fibres bore any relation to the coracoid process.

Dr. BROOKS read a paper on Varieties in the Nerve-supply of the Short Muscles of the Thumb. He said his object was to show that, in a large proportion of cases, the outer head of the flexor brevis pollicis received a nerve-supply from the deep branch of the ulnar nerve, whereas in all the English text-books the outer head was described as being supplied by the median only. Dr. Brooks then alluded to the different ways in which various authors had described the thumb muscles, and quoted the description in the last edition of Quain's "Anatomy," in which the outer or radial head of the flexor brevis is shown to consist of two parts—a larger superficial portion and a fasciculus springing from the deep origin of the muscle. He had invariably found that when one of these portions received a supply from the ulnar, the nerve also extended to the other.—Dr. HENRY KENNEDY said one important aspect of the subject was how far nerve-supply and muscular change accounted for the extraordinary difference that existed in different individuals as regards the use of the hand; for instance, in painting, carving, playing, writing, &c. Again, there was a remarkable difference in the power different people had of facial expression. Thus, Garrick, with the slightest movement, could express the idea he wanted to convey without saying a word. Another important aspect of the subject was that of its bearing on local disease of nerves. Recent investigations indicated that tabes dorsalis, locomotor ataxy, and writers' cramp were not dependent on the spinal cord at all, but on local disease of the nerves themselves.—Dr. FRAZER said their knowledge of animals and of the nerve and arterial supplies was in a transition state. What they had been in the habit of calling anomalies were now referable to the real causes in muscular anatomy as being the representatives of things in other animals, and under other conditions, pointing to the existence of a law.

## CAMBRIDGE MEDICAL SOCIETY.

A MEETING of this Society was held on March 5th.

*Primary Encephalo-scirrhus of Common Bile-duct.*—The PRESIDENT (Dr. Bradbury) read the notes of the case of W. L——, aged fifty-five, married, a laundry-man, admitted on Nov. 5th, 1885. His mother had suffered from rheumatism, and one brother had died of phthisis; there was no former history of new growths. He had served in the army during the Crimea and the Indian mutiny, being invalided home from the latter for virulent ophthalmia, which led to total blindness in both eyes. He had gonorrhœa when in the army, but no syphilis, and drank heavily of both beer and spirits in youth, but not of late. His present illness began with slight cold on September 16th, followed by vomiting and pains in the abdomen. On October 15th jaundice first made its appearance, and from this time the patient began to lose flesh and suffered much from itching of the skin. The heart was found to be normal, and a few râles were heard in the lungs behind. Liver dulness began at the sixth interspace, and extended to the lower border of the rib cartilages in the nipple line; slightly tender on pressure, but no irregularity or swelling detected. Urine 1020, dark-brown colour, acid, no albumen or sugar. The patient continued in much the same condition, colour varying slightly from time to time, with gradual loss of flesh and strength, being at times troubled with diarrhœa, till November 30th, when a small abscess appeared over the right eye; from this time other abscesses appeared, always in the subcutaneous tissues, principally on the thighs and abdomen, but nothing was ever felt over the liver, and the patient gradually sank on February 10th, 1886. The temperature remained normal till the abscesses became general, and then fluctuated from 101° to 103°. The treatment was principally with nitro-hydrochloric acid, taraxacum, and gentian. At the necropsy, the gall-bladder was seen to be much distended and pyriform in shape. The liver was firm, tough, and elastic, not enlarged; there were a few yellowish-white nodules on the surface, in size much the same as tubercular granulations. The gall-bladder was distended with mucus, otherwise healthy. A probe could be passed with ease up the common orifice of the bile and pancreatic duct, and into the common duct, and thence to the portal fissure, but not up the cystic duct or pancreatic duct; the mucous membrane extending for half an inch from the apex of the ampulla seemed quite healthy; immediately above this the mucous membrane was found completely destroyed to the extent of one-third of an inch, and replaced by a somewhat firm stricture with an irregular surface; then the mucous membrane again abruptly commenced, as also the dilatation of the common bile-duct. On the under surface of the right lobe of the liver was found a large abscess firmly adherent to the liver substance, and connected with the pelvis of the kidney by a small fistulous opening. Both kidneys were congested and bile-stained, and scattered through their substance were numerous small yellowish-white bodies, some of the older ones presenting a distinct puriform centre. The spleen was somewhat enlarged and soft, and the pericardium showed a layer of recent coagulated lymph. The bladder contained from two to three ounces of grumous pus, similar to that in the abscess surrounding the right kidney. The microscope showed the stricture to be an encephalo-scirrhous carcinoma, and the nodules in the liver and kidneys small abscesses. The President said it appeared to be a case of primary cancer affecting the common bile-duct, and he was unable to find any case on record. The abscesses appeared to be secondary to the one about the right supra-renal body, but the causation of this one was doubtful.

*Primary Malignant Disease of Prostate.*—Mr. CARVER showed this specimen, taken, post mortem, from a man aged sixty-six, who was admitted to Addenbrooke's Hospital on November 4th, 1885. He was at this time suffering from frequent painful micturition. The urine contained no blood, pus, phosphates, or albumen, but he complained more particularly of fulness and discomfort after food, with epigastric tenderness and constipation. For the last four or five years the bowels had acted, as a rule, only after aperients. On admission he was rather emaciated. Pulse 54, regular; arteries slightly knotty. Examination per rectum showed the prostate to be enlarged, and on its right side a nodular projection could be felt about the size of a cherry; another of similar size was felt about the situation of the right vesicula seminalis. Fourteen days after admission he had complete retention of urine, relieved by catheter. He then complained of pain in the right hypochondriac region. The liver rapidly enlarged, and the surface was felt to be distinctly nodulated; the abdomen was tympanitic and distended. He died on December 14th, 1885. At the necropsy the prostate was found much enlarged with new growth, the growth bulging into the rectum (which was healthy). Two tumours, each about the size of a small hen's egg, were found adherent on each side to the bladder and rectum and to the pelvic wall, so that on removing the bladder these tumours were cut through. From the outer side of these a chain of secondary tumours and enlarged glands about the size of filberts stretched upwards along the pelvic walls and iliac vessels to the lumbar glands, which were similarly affected. There were a few deposits on the mesentery and many on the parietal peritoneum, especially on the under surface of the diaphragm, and there was much fluid in the peritoneal cavity. There were numerous secondary deposits in the liver, and on the visceral and parietal pleura. Microscopic examination showed the deposits were medullary in character.

*Aneurysm of Arch of Aorta.*—Mr. MARTEN showed this specimen, from a man aged forty-one, who had had symptoms of an intra-thoracic aneurysm for more than two years. During life a pulsating tumour was detected under the right sterno-clavicular articulation. At the necropsy this was found to be a secondary aneurysm springing from an aneurysmal dilatation of the whole aortic arch. It extended upwards in front of the innominate artery, and contained a firm laminated clot, which projected into the aorta. The upper part of the sternum was eroded by this aneurysm, as were the bodies of the third and fourth dorsal vertebræ. During life surgical interference was proposed with a view to tying the right subclavian and carotid, but it was evident that no benefit would have followed.

*Occipital Meningocele.*—Mr. LAURENCE HUMPHRY showed an example of this affection. The tumour was nearly as large as a child's head, and protruded through an opening in the occipital bone, about an inch in diameter. A vertical section had been made through the head and tumour slightly to one side of the median line. It was a simple meningocele, and contained no brain. Its cavity was continuous with the fourth ventricle and posterior subarachnoid space, and the dura mater lining its walls was thickened in parts, forming bands, but there were no septa or loculi. The *iter a tertio* appeared to be closed, but there was no hydrocephalus. The cranial bones were remarkably thin, the fontanelles and sagittal suture widely open. At the posterior inferior angle of the parietal bone there were two or three spots, where ossification was defective; these were about the size of a split pea and covered by membrane.

## LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

A MEETING of the above Society was held on March 5th.

*Cardiac Hypertrophy and Kidney Disease.*—Dr. CHURTON showed specimens in support of the view that granular kidneys are accompanied by cardiac hypertrophy only when there is also widespread disease of the systemic arteries. The kidneys were in this case markedly contracted and granular; there was little atheroma of the aorta and none of other arteries; weight of heart, 9½ oz. In a case shown by way of contrast the kidneys were normal to the naked eye; stripped perfectly well; there was only slight microscopic change; the entire aorta and the coronaries were very atheromatous; valves of heart competent; the renal trunks were rather stiff and dilated; other arteries were also diseased; weight of heart, 17½ oz. He had notes of several other cases to the same effect.

*Asphyxia from an Orange-pip in the Trachea.*—Mr. MAYO related a case of the above. The patient, a child aged eight, was brought in a state of rather urgent dyspnœa, with a history of having swallowed a button. Symptoms pointed to the obstruction being in the trachea or left bronchus. Tracheotomy produced a partial relief; inversion was tried without success. The child died from gradual asphyxia about eighteen hours after swallowing the orange-seed, which was found, post mortem, fixed about the middle of the trachea and almost completely occluding it.

*Ether Inhaler.*—Dr. PURDY showed and described Dr. Blaikie Smith's ether inhaler. In its employment the patient does not rebreathe his expired air. The advantages of safety, simplicity, and economy are claimed for it.

*Defective or Scanty Menstruation.*—Dr. BRAITHWAITE read a paper on the treatment of some cases of this affection by Dr. Greenhalgh's stem. He spoke of potassium permanganate as useless, and detailed attempts to provoke menstruation in certain cases by the introduction of caustic, and afterwards pieces of cotton coated with pitch and other such "foreign bodies" into the uterus. He had found, however, that the rubber stem invented by Dr. Greenhalgh by far the best method, the only objection to it being that previous dilatation by a tent was necessary.—Mr. MAYO and Mr. TEALE recommended rapid dilatation under ether by means of sounds. The latter had done this in about fifty cases, with only one in which any ill effects had followed. The canal should be dilated up to the size of No. 12, and no harm was produced by a slight laceration of the cervix. There was then a free vent for pent-up secretions. He had seen bad results from using tents.—Dr. FARQUHAR spoke of the uselessness of permanganate and apiol, but had obtained good results from iron and aloes and pilocarpine.—Dr. BRAITHWAITE, in reply, said he had never seen bad results from the use of tents if they were dipped in thymol soap and covered with iodoform before introduction.

*Distension of Gall-bladder treated by Aspiration.*—Dr. IRVING read a paper on a case of this kind. The patient, a woman of sixty, of previous good health, was suddenly seized with severe epigastric pain, gradually spreading to the right hypochondrium, with tenderness. There was slight jaundice and an area of dulness in the region of the gall-bladder, both of which increased. The icterus then decreased, but the motions remained pale. A syringe inserted into the dull area drew off a light-brown fluid. Three days after there was much bulging apparent, extending over most of the right side, as far as the crest of the ilium. Sixty-two ounces of yellowish-brown, partly viscid fluid were withdrawn by an aspirator, followed by great relief. The fæces still remained pale, but five days after there was a copious evacuation per rectum of fluid similar to that aspirated, and except on one day, on which there was a rigor with pyrexia, the patient made a rapid and uninterrupted recovery. The fluid examined by Dr. Sims Woodhead of Edinburgh contained a sediment consisting mostly of cholesterine and bile pigment.—Mr. MAYO ROBSON preferred the operation of cholecystotomy, in cases of this kind, to aspiration.—Mr. TEALE referred to a case of extreme epigastric pain, with a lump in the position of the gall-bladder, completely relieved by an hypodermic injection of morphia.—Dr. EDDISON thought that the operation of opening the bladder was a severe one, and in acute cases generally unnecessary.—Mr. LAWFORD KNAGGS recommended aspiration as preliminary to operation, as the distension itself might be partly a cause of the obstruction.—Dr. GRIFFITH spoke of the harmlessness of aspiration, and referred to a case of cancer of the pancreas, where the gall-bladder was aspirated three times, the first operation drawing off quite clear fluid; afterwards it was of a green colour.—Dr. BARNS thought that further evidence was needed as to the particular class of case suitable for cholecystotomy, as the operation was not without danger, and there had been no case of death from distension of the gall-bladder.

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At a meeting on April 2nd the following subjects were brought forward.

*Injuries to Joints.*—Mr. MAYO ROBSON read a paper on a series of cases illustrative of the treatment of severe injuries to joints, and referred to the following cases, all of which had been under his care during the past year, and had been treated antiseptically by means of perchloride of mercury solution (1 in 2000) and dry dressings, and in every case a sound movable joint had resulted. (1) Compound comminuted fracture of the patella, with wound of the knee-joint; (2) compound comminuted fracture of the humerus, with wound of the shoulder-joint; (3) compound fracture of the humerus, with wound of the elbow-joint; (4) compound dislocation of the astragalus backwards; (5) suppuration in the knee following injury, treated by incision and drainage; (6) suppurating hæmatoma of the knee-joint in a man aged seventy, treated by incision and drainage. Several of the cases were shown.

Mr. EDWARD ATKINSON showed three patients who had been recently under his care in the Leeds General Infirmary. 1. A man aged thirty-seven, the subject of popliteal aneurysm, in whom ligature of the femoral artery was followed by gangrene of the foot, for which amputation had been performed through the calf by a long posterior flap, while the contents of the sac were still unconsolidated. 2. A boy of fifteen, who had suffered primary amputation of both arms for an accident in which he had fallen in front of some railway waggons with both limbs outstretched across the metals. The left arm had to be amputated through the shoulder-joint, and the right within two inches and a half of the head of the humerus. Both had healed rapidly without a bad symptom. 3. This was a case of enormous left inguinal hernia in a man of fifty-five, who had been admitted with urgent symptoms of strangulation. Taxis had been freely used before admission. The sac was found to be tense and dark-coloured, and on being opened a quantity of dark grumous serum escaped. Nearly, if not quite all, the ileum was in the sac, and at two points the gut was ruptured. The adherent sac was too large to be stripped and removed. The patient was under ether for an hour and three-quarters. He had no general peritonitis afterwards; and though suppuration of the sac retarded his recovery, it resulted in contraction of the cicatrix, which brought the ring within the control of a truss.

*The Mountain Cure in Heart Disease.*—Dr. CLIFFORD ALLBUTT read a paper on this subject. After calling attention to the growing practice of recommending exercise rather than perfect rest in some cases of heart disease, and referring to Oertel's papers, he described the plan adopted in Germany of graduated exercise by ascending hills, known as "the mountain cure." The patient, under careful supervision, was urged to walk certain paths of gradual ascent. The distress at first felt somewhat subsided, with the occurrence of perspiration, which, when the patient had attained his "second wind," was very profuse. The walks were extended each day; the diet was

largely nitrogenous, and much fluid was drunk. Dr. Allbutt remarked that cases for this treatment must be very carefully selected, as it would probably prove rapidly fatal to cases of aortic regurgitation or atrophic conditions of heart.—Dr. CHURTON thought that in some of these cases there was a contracted condition of the pulmonary arterioles, caused by impurity of blood, which would be overcome by the free elimination produced by exercise.—Dr. C. S. SMITH referred to a recent paper, in which he had put forth views similar to those advocated by the speaker.—Dr. BARRS thought that in the class of patients generally seen in hospital practice the usual treatment by rest and drugs was comparatively satisfactory.

*Pasteur's Inoculations.*—Dr. C. M. CHADWICK read a paper on M. Pasteur's Treatment for the Prevention of Hydrophobia. Having recently visited Paris with a view of forming an opinion on the subject, he shortly reviewed M. Pasteur's previous work, and proceeded to follow his investigations from his first case in 1880, when he discovered the presence of a microbe in the saliva (probably only an attendant on the virus, and not the true virus of rabies) and its rapidly fatal effects. Passing then to the inoculation from dog to dog under the skin, he showed how M. Pasteur expedited the process by direct inoculation under the dura mater. The uncertainty, however, of the results led to the passing of the virus through a series of rabbits, with the effect that the length of the inoculation period was much reduced. The different results obtained in dry air from those in a moist atmosphere of carbonic acid were then explained, several of the cases having been detailed at some length and commented upon. He advanced the three theories as to the *rationale* of the treatment—viz., the diminishing of the virulence, the lessening of the quantity of the virus, and finally, what appears most likely to M. Pasteur, the probable growth of some material antagonistic to the proper development of the primary virus. Having detailed the daily processes at the laboratory both for the keeping of the supply and the method of treatment adopted, he eulogised the excellent work and marvellous modesty of the discoverer of the process.—Mr. WHEELHOUSE pointed out that the cases sent to M. Pasteur from Bradford had all passed the usual incubation period of hydrophobia, as shown by one having proved fatal.—Mr. LODGE gave some particulars as to the recent Bradford cases. Thirteen persons were bitten on that day, but it was uncertain whether more than six were by the rabid dog. The usual post-mortem appearances were found in the dog's body, such as foreign matter in the stomach, though there was nothing known absolutely pathognomonic of rabies.—Mr. MCGILL pointed out the small but unknown proportion of cases of hydrophobia occurring among persons bitten by rabid animals as leading to fallacies in drawing conclusions as to the process.

The discussion was adjourned.

## SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

A MEETING of the above Society was held on March 11th, Mr. R. J. Pye-Smith, President, in the chair.

*Fœtal Monster.*—Dr. ALFRED ROBINSON showed a specimen of a Sycephalic Monster—subvariety "Miops."

*Cholesterine in Retina.*—Mr. SNELL introduced a boy, aged ten, with Cholesterine in the Retina. He had been observed to be blind at two years of age. Now there was detached retina, which was much thickened at all parts, but especially so at the nasal side (right eye), where the glistening cholesterine plates were detected even by the naked eye, and were rendered very distinct with focal illumination on the mirror. The plates were clearly fixed in the retina, which appeared a littly wavy at parts. Mr. Snell remarked on the unusual condition, and said that cholesterine had been found in most parts of the eye.

*Large Urinary Calculus.*—Mr. THORPE exhibited a large Mulberry Calculus removed by lithotomy. It weighed four ounces and a half and measured two inches and a half in diameter. The patient was aged sixty-five, and died five days after operation. Great difficulty was experienced in the removal of the calculus, and some unavoidable injury resulted to the soft parts.

*Carbolic Acid Poisoning (?) treated by Cocaine.*—Mr. W. D. JAMES related this case, occurring in a man aged thirty-five. On the evening of Nov. 19th he took a dose of carbolic acid instead of the mixture ordered. He does not appear to have swallowed any. Lips blistered; buccal and pharyngeal membranes looked coated with milk; pupils dilated; pulse uncountable, partly attributed to fear. Intense pain on swallowing. Administered oil; ordered eggs and milk, a poultice to throat, and ice to be sucked. Next day no sleep; pain worse. On the 21st the area of pain had extended all over the chest; voice hoarse, and laryngeal pain with each breath. Harsh, dry respiration in larger bronchi. Temperature 102·3°. At night the pain was intolerable; voice almost entirely gone. He was ordered one-sixteenth of a grain of hydrochlorate of cocaine in water every three hours; ice and poultice continued. Next day the patient was up, and on the 24th medical attendance ceased.

*Perforating Ulcer of Foot.*—Mr. C. ATKIN read a paper on this subject, and drew attention to the peculiar deformity of the toes met with in some instances.

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A meeting was held on March 25th, when the following specimens were exhibited.

*Sarcoma of Cervical Vertebræ.*—Mr. W. W. BANHAM showed a specimen of Sarcoma originating in the bodies of the third and fourth Cervical Vertebræ, infiltrating and softening the bone, and so compressing the cord.

*Cystic Disease of Kidney.*—Mr. BANHAM also exhibited this specimen of surgical kidney, in which a number of cysts had developed. The cysts were filled with cheesy matter. The case was one of bladder mischief, and the walls were found much thickened; there was a sinus in the ischio-rectal region, and the bladder was perforated in the posterior wall and led to a cavity in the perineum.

*Rupture of Intestine.*—Mr. LOCKWOOD exhibited this specimen from a lad, who had been kicked in the abdomen on the evening of March 20th. He was admitted into the public hospital under the care of Dr. Keeling; he was sick and complained of pain after the accident. The next morning he was twice sick; the abdominal pain was increased; there was no external sign of injury; he died at 4.30. At the necropsy there were signs of recent peritonitis, and a rupture in the gut about the junction of the jejunum and ileum.

*Constricted Intestine with Rupture.*—Mr. LOCKWOOD also showed this specimen from a patient of Dr. Keeling's. He had been operated upon for strangulated hernia. The intestine was ruptured.

Mr. KILHAM exhibited a specimen of Ruptured Aorta from a man aged thirty, a tramp, who fell suddenly dead whilst scrubbing the floor; and a specimen of Diverticulum of Ileum from a man aged fifty-eight, who died of cancer of the liver. It was situated about a foot from the ileo-cæcal valve, and projected from the lower border of the ileum.

Mr. C. F. COOMBE exhibited specimens of (1) Fatty Kidney; (2) Cirrhotic Kidney, Hæmorrhage into Pons; (3) Tubercular Kidney, Caseous Degeneration.

*The Present Position of Therapeutics.*—Dr. HUNT, after a brief retrospect of the history of therapeutics, went on to show that medicine was influenced by fashion, which arose from certain remedies being associated with certain diseases. Another influence that was brought to bear on medicine was public opinion. He thought that experimental research had not been successful in establishing therapeutics on a true scientific basis, and that the principle of arguing from a physiological condition to a morbid one was not sound, and did not in practice correspond with theory. It was further shown that medicinal agents can never be called curative, their only use being to treat symptoms. Another character of modern therapeutics was its approach to surgery and the influence surgery had brought to bear on the medical art. Dr. Hunt mentioned the value of certain recent drugs in certain morbid conditions, and concluded by giving his opinion on the relation that should exist between the medical man and the public.

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At the meeting on April 8th,

Mr. JEFFREYS exhibited a large Biliary Calculus the size of a pigeon's egg, passed per anum.

Mr. GARRARD exhibited a Breast removed for Cancer.

*Popliteal Aneurysm.*—Dr. KEELING introduced a patient, aged thirty-two, for whom he had ligatured the femoral artery for Popliteal Aneurysm, with most satisfactory result. Flexing the limb and the application of a tourniquet had been tried at first without benefit. The artery was tied with a catgut ligature and antiseptic precautions were adopted. The patient, who was the subject of cardiac

disease, made an uninterruptedly good recovery.—Remarks were made by the President and Mr. Garrard.

*Perforating Ulcer of Stomach.*—Dr. BARTOLOMÉ related particulars of a case in which death resulted from Perforating Ulcer of the Stomach. The patient had been suddenly seized with severe abdominal pain, after partaking of a hearty tea, death resulting in twenty hours. For some time previously she had complained of pain below the ensiform cartilage, but the symptoms, Dr. Bartolomé said, were not characteristic of gastric ulcer. The specimens were exhibited, showing a large perforation in the posterior wall of the stomach.

*Malignant Disease of the Throat; Laryngotomy; Pyæmia; Pneumonia; Death.*—Mr. KILHAM related this case. The patient was a man aged fifty-three; he was admitted into the Workhouse Hospital on January 16th with extensive cancer of the soft palate, uvula, both sides of the fauces, and the base of the tongue, and large swellings at the angles of the jaw of about six months' duration. Laryngotomy was performed for urgent dyspnœa on Jan. 22nd. On Feb. 2nd the right shoulder became painful, with effusion, and on the 4th the left was affected. On Feb. 7th pneumonia set in, and he died on the 10th. At the post-mortem examination a large abscess was found under the right sterno-mastoid; both shoulder-joints contained pus; the submaxillary glands were indurated, and the malignant disease had extended to the epiglottis.

*Fever.*—Mr. BROWNING read an interesting paper upon this subject. He commenced with a brief review of the views held by Cullen, Watson, Addison, and Alison. Sir Wm. Jenner was the first to fully differentiate the various characteristics of typhus and typhoid. Admitting that, in typical cases of these two forms of fever, there is but little difficulty in making a differential diagnosis, yet the author of the paper claimed that there are numbers of cases in which the characteristics of each are not so clearly marked, and in which a diagnosis is a matter of considerable difficulty. Mr. Browning put two questions to the meeting. First, is it possible to have typhus fever without a rash of any kind; and, if so, does it frequently happen? Secondly, Is there any specific form of fever known as typhoid which is not enteric—i.e., with Peyer's patches unaffected? To the first of these questions, as the result of his own personal experience, he was inclined to answer in the affirmative. He believed he had seen cases in which all the well-marked features of typhus have been present, except the rash. To the second question he did not feel in a position to make any definite reply.

## MIDLAND MEDICAL SOCIETY.

A MEETING of this Society was held on Wednesday, March 17th, Mr. Lawson Tait, F.R.C.S., in the chair.

Mr. JORDAN LLOYD showed a boy who had had well-marked symptoms of an Abscess in the lower end of the Tibia. The bone was trephined and a small collection of pus evacuated, from which time the symptoms rapidly subsided.

Mr. EDWARD FREER exhibited a Divided Plaster Jacket for Spinal Curvature.

Dr. CARTER read a commentary on a case of Enteric Fever.

*Transfusion Apparatus.*—Mr. LAWSON TAIT showed the apparatus used by Professor Annandale of Edinbugh in transfusion, and read the following account of the operation. 1. The vein having been selected and exposed, a double catgut ligature is passed around it; the vein at the lower part of the wound is then securely ligatured. An opening is next made in the vein and the glass nozzle inserted, pressure being kept up on the india-rubber tube. The other ligature is now tied with a single knot around the vein and nozzle, and the ends held by an assistant. 2. The giver of the blood is meanwhile bled into the glass measure containing two ounces of the phosphate of soda solution; this will require six ounces of blood. This vessel must be kept at a temperature of about 100° by means of hot water in a basin, and the blood and solution stirred carefully with a glass rod during the remainder of the operation. 3. The glass syringe is now filled with the mixture of blood and solution, care being taken to expel all the air. The syringe is next inserted into the small piece of indiarubber tubing, from which pressure can now be removed and the blood very slowly injected. The syringe must be kept warm by means of hot flannel cloths. The point of the syringe should be directed downwards to avoid the entrance of air into the vein. When the syringe is emptied, pressure is again made on the tubing and the syringe refilled as before. After all the blood is injected the glass nozzle is removed from the vein, the ligature at the same time being tightened and secured. The wound in the skin is then stitched up. The time occupied in injecting the eight ounces of the mixture (about three syringefuls) should be about twenty minutes. The phosphate of soda solution consists of one ounce of phosphate of soda to twenty ounces of distilled water. This solution should be freshly prepared, and one part mixed with three parts of blood. All the apparatus should be carefully washed with distilled water.

*Azoturia.*—Dr. SUCKLING showed a specimen of urine passed by a man aged forty-seven, who complained of insomnia and restlessness. The urine was acid, sp. gr. 1030. A copious deposit of nitrate of urea was at once thrown down on adding nitric acid, and the percentage of urea by Squibbs's process was 3·4. The average daily quantity of urine was forty-four ounces. The patient was ordered milk and farinaceous food; immediate relief followed.

Dr. SUCKLING also showed a well-marked case of Post-hemiplegic Tremor.

## WEST KENT MEDICO-CHIRURGICAL SOCIETY.

A MEETING of the above Society was held on Friday, April 2nd, R. E. Carrington, M.D., President, in the chair.

*Stricture of the Urethra.*—Mr. JOHNSON SMITH, F.R.C.S., read a paper on Stricture of the Urethra. He dealt with the various methods of treating the stricture by dilatation, and advocated gradual continuous dilatation. He laid great stress on the utility of a hot bath and the internal exhibition of opium before attempting to pass an instrument in cases where great difficulty might be expected. A good discussion followed, in which the President, Dr. Purvis, Mr. Lockhart, Mr. Moore, Dr. Moon, Mr. J. P. Purvis, Dr. Johnston, and Dr. Ernest Clarke took part.

*Paroxysmal Hæmoglobinuria.*—Dr. ERNEST CLARKE showed the urine of a patient under his care in the Miller Hospital. The patient was thirty-five, married, had suffered a great deal from rheumatism, and was admitted into the hospital to have some adhesions in the elbow-joint broken down. While in the hospital she had two attacks of hæmoglobinuria, there being a week's interval between each. The attack consisted of a rigor, during which the temperature rose to almost 102° from normal; this was succeeded by a rapid fall of the temperature to normal, accompanied by profuse sweating, and shortly followed by the passage of porter-coloured urine. The urine gave the blood-test with guaiacum, and precipitation of albumen with heat and nitric acid; under the microscope no blood-discs were seen, but only masses of yellow pigment. The patient had lived the first fifteen years of her life in Cambridge and latterly in Lewisham—both somewhat aguish districts; she had never had any other form of ague. The last few years she had been subject to attacks of paroxysmal hæmoglobinuria after exposure to cold; she had sometimes had an attack at night when in bed. The patient wore an anxious expression, and her skin had a very "earthy" appearance. The special interest of the case lies in the fact that the patient is a female, and that she had the attacks at night. It is also interesting to note the association of rheumatism.

## WOLVERHAMPTON AND DISTRICT MEDICAL SOCIETY.

A MEETING of the above Society was held on Thursday, March 4th, F. E. Manby, F.R.C.S., President, in the chair.

*Amputation of Breast for Cancer.*—Mr. VINCENT JACKSON exhibited a woman aged fifty-eight, whose right breast he had amputated thirteen years since for cirrhous cancer. At the present time she is in good health. There is no evidence of any return of the disease. Four years previously to the operation an unmarried sister had her left breast removed for the same disease, and she also continues quite well. Mr. Jackson stated that this case and two others, one being an example of the removal at the same time of both breasts, were the only instances of a long survival after excision of the breast out of the total number of cases in which he had performed this operation.

*Paralysis following the Injection of Iodo-glycerine for the treatment of Spina Bifida.*—Dr. LYSETT exhibited a girl aged six years, who at birth was the subject of spina bifida over the upper part of the sacrum, forming a tense sessile tumour the size of an orange, having an ulcerated surface of the area of a crown-piece, which, on healing, formed a thin membranous covering to that portion of the sac; becoming thinner through expansion, it was tapped when she was six weeks old. An ounce and a half of fluid was drawn off, and forty minims of iodo-glycerine injected, with a negative result, the sac refilling. A week afterwards, about an ounce of fluid was withdrawn, and the injection increased to a drachm and a half, causing the sac in a few days to become obliterated, but coincidently with shrinking, however, came loss of sensory and motor power in the legs, with incontinence of fæces and urine, the paraplegia, which has persisted, being complete below and incomplete above the knees. Hydrocephalus also commenced immediately after the operation, and gradually increased until the third year, when the fontanelles closed without developing any more phenomena or impairing mental power. The horizontal circumference of the head now measures twenty-two inches. In the report of the committee appointed by the Clinical Society of London to inquire into the subject of spina bifida, there is a case recorded where paralysis supervened and persisted after the cure of the tumour, and appeared to be due to the treatment adopted. In several cases temporary paralysis occurred, which passed off in a variable time; once complete paraplegia, which subsequently disappeared. In three cases hydrocephalus set in subsequently to the cure of the spina bifida. Of the various operative measures, that by the injection of iodo-glycerine is recommended in preference to any as promising the greatest success, though the table of results shows that of 71 cases only 35 recovered, 27 died, 4 were relieved, and 5 unrelieved; and as evidence of the frequency and serious nature of this affection, it appears that it caused no fewer than 647 deaths in 1882, of which 615 were in children under one year of age.

# Reviews and Notices of Books.

*The Essentials of Materia Medica and Therapeutics.* By ALFRED BARING GARROD, M.D., F.R.S., Consulting Physician to King's College Hospital. Eleventh Edition. Edited by NESTOR TIRARD, M.D., Professor of Materia Medica and Therapeutics at King's College. London: Longmans, Green, and Co. 1885.

*A Handbook of Therapeutics.* By SYDNEY RINGER, M.D., Professor of the Principles and Practice of Medicine in University College. Eleventh Edition. London: H. K. Lewis. 1886.

WHEN a work has attained the dignity of an eleventh edition we hardly know whether to congratulate the author or tender him our respectful sympathy. The first blush of success is over, the congratulations of friends are forgotten, and he keenly feels that it is no easy matter to keep pace with the progress of a subtle science which day by day advances with giant strides. There are two courses open to the popular author: either he may endeavour to keep his book what publishers call "a going concern" by his own unaided efforts, or he may retain the services of a young and active junior. The latter is the plan which has been adopted by Dr. Garrod. The first edition of his well-known work on Materia Medica was published as far back as 1855, the author being then Professor of Materia Medica, Therapeutics, and Clinical Medicine at University College. It was at its first appearance a modest little book containing a great deal of valuable information in its 280 odd pages. It was nearly ten years, however, before another edition was called for, and by that time the author had seceded from University College and had accepted a professorship at the rival school. The fourth edition appeared in 1874, and was the first, we believe, issued under the able editorship of the late Dr. Buchanan Baxter. The present work has been revised and edited, "under the supervision of the author," by Dr. Nestor Tirard of King's College. Dr. Garrod in his preface says: "The task of re-editing the book has been mainly entrusted to my friend and former pupil, Dr. Tirard, who has devoted much time to the study of the therapeutic action and chemical properties of many important medicines, and upon whose ability and accuracy I can fully rely." The book has increased somewhat in bulk, but the changes in the text are fewer and of less importance than might have been anticipated. There have been some alterations in type and sundry paragraphs have been introduced from the British Pharmacopœia; but beyond that there is really very little fresh worthy of record. The assertion that cocculus indicus and picrotoxine are not used internally in medicine is a legacy from the first edition; a great many papers have, however, been written on the subject during the last ten years, and many will remember that in 1875 the Academy of Medicine of Paris awarded a prize to Planat for his investigations into the physiological action and therapeutic uses of these drugs. We must, however, congratulate Dr. Garrod and Dr. Tirard on the eleventh edition of the work.

Of Dr. Ringer's well-known "Handbook of Therapeutics" we can only speak generally in terms of praise. The first edition was not published until 1869, but we have no hesitation in saying that it has practically revolutionised the science of which it treats. We turn with pleasure to the articles on Pilocarpine, Muscarine, Gelsemine, Nitro-glycerine, Duboisine, and Hamamelis, all of which give indications of good, sound, original work. The great feature of the present edition is the chapter on Cocaine, by Dr. Dudley-Buxton, Administrator of Anæsthetics at University College Hospital, who is also responsible for the articles on Chloroform, Ether, Nitrous Oxide Gas, Bichloride of Methylene, Ethidene, &c. Dr. Buxton has performed his task in a manner which marks him as a clear and lucid writer. We must confess that we are somewhat disappointed with some of the more recent contributions, although we fully admit that an author can hardly be expected to be equally conversant with all branches of his subject. The brief notes on Cascara Sagrada certainly fail to do justice to this valuable remedy for chronic constipation. The absence of reference to the published papers of other investigators gives at times an appearance of egotism to the work, which we are sure is unintentional. The whole book is still badly edited, and stands sadly in need of thorough revision. When Dr. Ringer gravely informs us that his friend, Mr. Joseph Bartlett, has *recently* employed actæa racemosa in the treatment of lumbago with considerable success, we cannot help feeling that he is strangely oblivious to the passage of time. He expresses his obligation in graceful terms to Dr. George Bird, who has assisted him with so many editions. Notwithstanding these imperfections, Ringer's Therapeutics will always be popular both with practitioners and senior students.

*Contributions to Pathology and the Practice of Medicine.* By JOHN RICHARD WARDELL, M.D. Edin. London: H. K. Lewis. 1885.

THE author of the essays contained in this handsome and bulky volume passed away from the scene of his labours shortly after the work was published. He was widely esteemed, and was indefatigable in medical research. The variety of subjects treated in the book, which remains as a memento of the man and a record of his life work, testifies to the wide experience he gathered. The volume is mainly valuable as embodying the results of that experience, for its contents range from the lengthy essay upon Relapsing Fever, written as a graduation thesis more than forty years ago, to the articles upon Hypertrophy of the Heart, contributed to "Quain's Dictionary of Medicine," and those on Diseases of the Spleen, Diseases of the Pancreas, Enteralgia, and Peritonitis, contributed to "Reynolds's System of Medicine." Amongst the more important papers —there are no fewer than fifty in all—are those upon

Enteritis, Ulceration of the Bowels, on Pleuritic, Serous, and Purulent Effusions, Chronic Ulcer of the Stomach, Carcinoma of the Stomach, and Typhoid Fever. They strike one as the product of an able mind, and contain many instances of accurate and careful observation. The following statement of the results of 36 cases of pleural effusion is worth quoting. It illustrates well the progress that has been made in the treatment of this condition:—"Of the 36 cases above given 24 were in males and 12 in females. The average of their ages was twenty-four years; 10 were from two to ten, 8 from ten to twenty, 5 from twenty to thirty, 8 from thirty to forty, 1 from forty to fifty, 3 from fifty to sixty, and 1 was aged sixty-five. In 12 the disease occurred in the *right* side, in 23 in the *left* side; 17 recovered through medical treatment, and various external applications were employed to promote *absorption*. In 17 the *trocar* or *aspirator* was employed. In 6 the fluid drawn off was *serous*. In 11 the secretion was *purulent*. In 2 the instrument was introduced, but no fluid was emitted on account of adhesion of the lung to the chest wall and plastic formations. In one instance a spontaneous opening had existed for more than twenty years. In some closures of the passage the cannula was employed with great relief. In one sudden death occurred from syncope after the operation had been decided upon; three quarts of purulent fluid were found in the left chest, and also that the kidneys were diseased. In one case the purulent formation existed seven years and a half, and full and perfect recovery resulted. Thirty-one of the 36 *recovered;* one was relieved and lived many years after, though the opening remained unclosed, and 4 *died*." We would gladly extend our quotations did space permit, but must be content to refer the reader to the book itself. In spite of its somewhat heavy style, it cannot fail to instruct as well as to suggest material for thought, whilst the hopeful views taken by its author on the progress of scientific medicine in the essay that closes the volume—an essay written apparently but a few months before his death—show how fully he appreciated all the advances made during his time and within his knowledge.

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*The Races of Britain.* A Contribution to the Anthropology of Western Europe. By JOHN BEDDOE, M.D., F.R.S. Pp. 271. Bristol: Arrowsmith. London: Trübner and Co. 1885.

DR. JOHN BEDDOE is already well known by his valuable work on the "Stature and Bulk of Man," which was published some twenty years ago. The present work, as he tells us in the preface, is an expansion or development of a manuscript essay which in 1868 carried off the great prize of the Welsh National Eisteddfod. It is replete with interesting facts, and will rivet the attention of all those who are interested in the history of our own people. Dr. Beddoe was induced, he tells us, to take up this subject in consequence of the difference of opinion that formerly existed in regard to the colour of the hair of the Celts, and he resolved to make observations on colour phenomena on a large scale, which might afford to anthropologists some trustworthy material on which to build, or at least to test the permanence of characteristics which were by some treated as fugitive, by others as well-nigh everlasting. He has himself come to regard the colour of the hair and eyes as very permanent. He thinks it does not vary in the same family or in the same tribe more than the form of the head. He acknowledges the great difficulty that exists in determining from ancient writings the precise meaning which should be attached to these expressions indicating colour, and even in modern observations differences in description are met with which, as he rightly observes, cannot be duly estimated without a knowledge of the personal equation of the observer. Thus, most French anthropologists say that the majority of persons in the north of France are blond; whereas almost all Englishmen would say they were dark; each set of observers setting up as a standard what they are accustomed to see around them when at home. Dr. Beddoe dwells on the lamentable defect of craniological measurements of English ancient and modern skulls, and gibbets the late Dean MacNeile, who destroyed, unmeasured and undescribed, the fine mediæval ossuary at Ripon. The only collections now remaining are those of Hythe, Rothwell, and Micheldean.

In regard to the persistence of prehistoric races in Britain, Dr. Beddoe thinks that the palæolithic race, which Boyd Dawkins maintained to be the ancestors or relatives of the Esquimaux, may have left some descendants, the traces of whom may be seen in the modern population of Wales and the west of England, characterised by the oblique or Chinese eye, and other Mongoloid characters.

From various evidence Dr. Beddoe concludes that the Belgæ were a Celtic-speaking, and to some extent in blood and physique a Celtic or Celtiberian people in Gaul, Asia, and Britain; the Galatians being the representatives of the Celts in Asia. He does not appear to think that the Roman occupation left any deep or extensive ethnic changes in Britain. The influence of the Anglo-Saxon Conquest and period is very complex, and is given by Dr. Beddoe in great detail for each part of the country. Then follows an account of the effect on the population of the Norman Conquest.

The work is illustrated by many maps and by numerous tables, the preparation of which must have cost Dr. Beddoe infinite pains and trouble, but which add greatly to the authority of his statements. There are also some excellent drawings of characteristic faces and heads. The treatise will interest everyone who desires to obtain some information of the origin of the men and women by whom he is surrounded in any part of the country.

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*Lectures on Dietetics and Dyspepsia.* By Sir WILLIAM ROBERTS, M.D., F.R.S. London: Smith, Elder, and Co. 1885.

THE experimental observations to which Sir W. Roberts has so fruitfully devoted himself are doing much to instruct the profession upon the very important subject of food and its digestion. We already owe him much for the light he has thrown upon the preparation and digestibility of foods, and in the publication of these lectures he has added to our indebtedness. The reader of this book will find therein very satisfactory explanations respecting the relative value of such common food accessories as tea, coffee, cocoa, and alcohol, based on experiments upon artificial digestion (salivary, gastric, and intestinal). In some cases the results obtained will come as a revelation; but as they in the main harmonise with prevalent ideas respecting the etiology of dyspepsia, it would be mere folly to cavil at them because they are only laboratory researches. Nor could the questions be tested in any other way. We shall not anticipate the reader's pleasure by any extracts from the book. Some of its conclusions were brought under notice by the author in his address at Cardiff; and we may content ourselves with recommending practitioners to study the facts for themselves; for they are presented in a manner which enables them to be readily understood, and their bearings upon digestive derangements easily grasped.

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THE decision by which a medical man named Moore, of Thornton Heath, obtained a verdict for £600 damages against the Lambeth Waterworks Company for injuries sustained by falling over a fire-plug above the level of the pavement, was on the 17th inst. reversed by the Court of Appeal, which held that the company, being under no obligation to repair the pavement, had been guilty of no negligence.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—The annual meeting of this Society will be held at the Holborn Restaurant on Tuesday, May 18th, at 6.30 for 7 P.M.

# THE LANCET.

*LONDON: SATURDAY, APRIL 24, 1886.*


BY the verdict of the jury at the Central Criminal Court on Saturday last another celebrated case has been, legally speaking, removed from the catalogue of crimes, though left by that verdict in an atmosphere of suspicion. However strong was the suspicion, there was certainly not sufficient evidence to prove beyond all reasonable doubt that a murder had been committed. The whole course of the BARTLETTS' married life seems to have run in such peculiar grooves, and to have been directed by influences so unnatural, that, to say the least, it was well-nigh impossible to measure with accuracy the full meaning of any particular circumstance connected with it, when judged by the light of circumstantial testimony alone. Reading between the lines, however, it may be gathered that, although to outward appearances Mr. and Mrs. BARTLETT lived on mutually affectionate terms, there was much to render their existence anything but happy and contented. When the principles of *Esoteric Anthropology* are made the guide of wedded life, the instincts and cravings of human nature find no fitting opportunity for their normal manifestation and satisfaction. We were glad to read the condemnation passed by the learned judge who presided at the trial upon literature which, whatever the intentions of the author, is fit only to be burned by the public hangman. It is little to the credit of the deceased man that he not only indulged in such unsavoury mental aliment, but allowed and encouraged his young wife to join him in his errant course. We are not now concerned so much with the psychological aspect of the "Pimlico mystery" as with its physiological and medico-legal bearings; still, wherever crime is alleged there is usually motive suggested, and naturally one is eager to inquire into the antecedents of the parties charged. Now, although we fully subscribe to the verdict of acquittal, we cannot help thinking, if the evidence bearing upon Mr. DYSON'S position in the home of the BARTLETTS be accepted as true, there was room for grave suspicion against the two persons originally charged in the indictment, considering the facts which transpired on and after the 28th of December. That these suspicions fell short of proof was acknowledged by the prosecution when they decided to offer no evidence against Mr. DYSON, and by the jury when they brought in Mrs. BARTLETT "Not guilty."

In the Scotch Courts the verdict on Saturday would have been "Not proven," certainly a more logical way of recording the finding in the present case. There is one exception that might be taken, perhaps, to the general soundness of the summing up of Mr. Justice WILLS: we refer to the question of the probabilities of suicide. It is true there was nothing to show that the deceased contemplated putting an end to his existence; but with a mind like his—if not unsound in a technical sense—distorted by morbid sensations and beliefs anything but indicative of mental equilibrium, and with a body weakened by many days of suffering and sleeplessness, it is not too great a stretch of the imagination to suppose that, seeing the "instrument" ready to hand, he may have been seized with an irresistible impulse to use it; without assuming design or prior intent to commit a felonious act upon himself. Then, again, the chloroform may have been taken accidentally by the deceased; or wilfully, but in ignorance of the consequences likely to ensue; or whilst in a half-dazed condition when waking from unrefreshing sleep. The purchase of the chloroform by Mr. DYSON at the request of Mrs. BARTLETT, the certain death of Mr. BARTLETT by swallowing the drug, and the disappearance of the bottle which contained it, formed a chain of events which required all the forensic talent of Mr. CLARKE to loosen and unlink to the satisfaction of the jury.

That the chloroform gained admission to the stomach of Mr. BARTLETT during his lifetime there could be no shadow of doubt, for there were unequivocal signs of its irritant action upon the mucous membrane. And in the absence of any other discoverable cause of death—although, if we remember rightly, no mention was made of a chemical examination of the urine, or of inspection of the spinal cord or suprarenal capsules—the inference was fair that deceased succumbed to the combined irritant and narcotic effects of chloroform. In fact this was not seriously challenged by the counsel for the defence. According to WHARTON and STILLÉ, "when death has been produced by the internal use of chloroform its local irritant action has evidently been the chief cause of the fatal result." To this dictum we must emphatically demur, since the exhaustion that would naturally follow the continued action of such a powerful irritant is minimised by the toxic and soporific effect of the poison absorbed into the system. The acute inflammatory action set up in the stomach by swallowed chloroform fails to induce fatal shock, just because the sensorium is lulled into quietude and stupor. A parallel example is furnished every day by the performance of otherwise painful operations whilst the patient is in a state of anæsthesia. In Mr. BARTLETT'S case the inflamed and eroded area was situated on the posterior surface of the stomach in the direction of the œsophagus; but this is just what might have been expected, whether the chloroform was administered by himself or some other person, providing the body lay on the back during the greater part of the time that elapsed between the act of swallowing and the advent of death. As an argument in support of the contention that Mrs. BARTLETT was responsible for the administration, it was practically worthless.

Let us suppose for a moment that Mrs. BARTLETT actually gave the chloroform to her husband. We then have to ask, What are the alternatives as to the means adopted? In the first place, it might have been by inadvertence—a supposition that may be discarded without further consideration, for the pain and stifling effect would have sufficed at once to have led to a recognition of the mistake; and of course this holds good as regards the theory that Mr. BARTLETT was the sole active agent of the misadventure. Having eliminated the question of accident, we now turn to the accusation set forth in the indictment. The Attorney-General, in his opening speech for the prosecution, to all intents and purposes told the jury that before they could convict they must satisfy themselves that the deceased was first stupefied or rendered

insensible by inhalation, and that while in this condition the fatal draught was administered. Nor, on the supposition of Mrs. BARTLETT's guilt, could he consistently with a show of probability have followed any other course. It would, to our minds, have been idle to expect the jury to be convinced that the chloroform was given solely in the liquid form, disguised or not by admixture with alcohol or other fluid. Mr. CLARKE, in his able address, asked the jury to believe how utterly unlikely it was that Mrs. BARTLETT should select for the carrying out of her alleged purpose a drug which hitherto had not been employed to compass homicide. The pleading on this point was not devoid of all show of reason, but to adopt it as unanswerable would, if followed to its logical conclusion, amount to this: that a jury ought not to convict a prisoner of the crime of murder, because there was no precedent as regards the means recorded in the history of forensic medicine. PALMER was convicted and hanged for having poisoned COOK by strychnia, although the alkaloid was virtually unknown to the criminal law, and in spite of chemical analysis having failed to discover it in the stomach and tissues of the victim. So, too, in LAMSON's case, there was little or nothing in the form of previous experience to aid the investigation of the question of poisoning by aconitine.

Stripped of its associated elements of motive and suspicion, the proof of Mrs. BARTLETT's alleged guilt could only rest upon the ability of the prosecution to tender trustworthy evidence as to the likelihood of the accused succeeding, in the first place, in administering chloroform by inhalation to a sleeping man, and, secondly, in giving a fatal liquid dose of the same drug to a person in a state of narcotic stupor. The testimony of Dr. STEVENSON and other witnesses showed that, although each act might be accomplished, it would, nevertheless, be a task of no ordinary difficulty, and, in short, so arduous and uncertain of attainment that a medical man, possessed as he would be of special experience and knowledge, might fail in the attempt. At a trial for attempted murder by the administration of chloroform vapour, which took place on Jan. 18th, 1871, at New Bloomfield, Perry County, Pa., Dr. MAURY said: "I experimented with chloroform on six sleeping persons. Out of that number all resisted more or less. Two men woke up immediately, and one remarked, 'You are trying to give me something.'" With opinions stated so guardedly, and rightly so, we maintain that the verdict returned in the BARTLETT case will meet with general approval by the profession. Since writing the above we have read in the daily journals a letter from the foreman of the jury, in which he says eleven of their number were in favour of finding that deceased took the chloroform himself, either from a desire to procure sleep or with the intent to commit suicide.

Concerning the necrosis of the jaw and its attendant symptoms, Mr. LEACH formed the opinion that Mr. BARTLETT was the subject of mercurial poisoning. In support of this diagnosis was the fact that, in addition to the swelling of the gums and the salivation, Mr. BARTLETT suffered from diarrhœa and hæmorrhage from the bowels. Unfortunately, the liver, kidneys, &c., were not preserved for analysis, or valuable evidence might have been thereby attained, since mercury is a poison which has a tendency to accumulate in the tissues. The only reasonable theory advanced at the trial to account for the exhibition of mercury supposed that Mr. BARTLETT may have taken the mineral for the treatment of a real or fancied disease, which a certain article found in his dress was intended to prevent. But this was nothing more than conjecture.

The case must now, and probably will for ever, remain where the jury have left it; but it will certainly long be remembered on account of the prominence given by it to the effects of poisoning by liquid chloroform.

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EVER since the discussion on the case of the late President GARFIELD, in which MARION SIMS took a leading part, the question of the treatment of perforating wounds of the abdomen has attracted much attention in the United States. The most important result up to the present is a paper recently read by Professor F. S. DENNIS at the New York Medical Association, and published in the *Medical News* of Philadelphia. The purport of the paper is to show that the proper course in cases of stab and gunshot wounds involving the abdominal cavity is to explore the wound and search for and treat any visceral lesion, applying strict antiseptic treatment throughout.

Penetrating stab-wounds of the abdomen are first dealt with. Dr. DENNIS relates cases showing the difficulty of determining whether a viscus is injured or not, and the hopelessness of wounds of the intestine if only palliative measures are adopted. Two patients were exhibited in whom Dr. DENNIS had met with great success. In one of them a loop of protruded intestine had received two wounds, one two inches long; these were sutured and the bowel returned. In the other there was no prolapse, only a penetrating wound four inches above and three inches to the left of the umbilicus. The abdominal cavity was opened in the middle line, and the whole of the abdominal viscera were systematically examined. No injury was found. Both patients made good recoveries. The latter case is similar to one recently published by Mr. ARTHUR E. BARKER. Other cases are quoted to show the possibility of finding and suturing wounds of the intestine, and of thoroughly cleansing the peritoneal cavity from blood and other extravasations. Professor DENNIS gives a table of fifteen cases in which this line of practice has been successfully followed by himself and other surgeons; Mr. BARKER's case raises the number to sixteen.

Dr. DENNIS next deals with cases of penetrating pistol-shot wounds of the abdomen. He relates two cases of his own. In one he found a wound of the liver, from which there was profuse hæmorrhage; in the other he detected seven wounds of the intestine, each of which was sutured; but in addition there was alarming venous hæmorrhage, which it was impossible to control. Death occurred in forty-eight hours, and it was then found that the intestinal wounds were firmly closed, and that "the iliac veins" were wounded. Seven cases are to be found in surgical literature where in this form of injury the abdominal cavity has been explored and cleansed and wounds of the intestine closed, the patients making good recoveries. Dr. DENNIS has only found one case recorded in which laparotomy was performed simply for a ruptured intestine, and in that case the patient died.

The conclusions that Dr. DENNIS arrives at may be thus stated. Wounds and ruptures of the intestine are certainly fatal if left alone. A properly conducted laparotomy adds little or nothing to the danger of the injury. Suture of wounds of the intestine has been proved to be a successful procedure. Although a wound of the intestine may be readily diagnosed in some cases by emphysema, by the detection of gas in the peritoneum, or by the flow of fæces from the external wound, in many other cases the surgeon is unable to assert with confidence that the bowel is *not* injured. Hence it is a justifiable procedure to explore the abdominal contents even when there is no positive evidence that they have been injured. The exploration, Dr. DENNIS thinks, is best made through an aperture in the linea alba, and not by enlarging the initial wound. This exploration, too, must be thorough and complete. In one of his cases no less than ten wounds of the ileum were detected. The surgeon must, therefore, not be content with finding and treating a single visceral lesion, but must carefully examine in an orderly manner the whole of the abdominal contents. Quite as important is the care expended to prevent the infection of the peritoneum with septic organisms, and the adoption of means for their removal if already present. Dr. DENNIS is a staunch upholder of antiseptic surgery, which he would have carried out with scrupulous attention to every detail. The antiseptic agent he prefers is bichloride of mercury. There are several other points raised more or less incidentally in this paper, but those to which we have alluded suffice to indicate its importance and value.

It is interesting to note that the late Professor GROSS, when writing on Wounds of the Intestine more than forty years ago, recommended just this line of treatment. He clearly saw the only direction in which surgery could hope to deal successfully with such cases. Our modern improved methods of wound treatment have rendered the course of action then advised not only practicable, but successful.

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IT is but seven years ago that a paper by Mr. W. H. POWER on Diphtheria and Milk, read before the Pathological Society, led to a more general consideration of the question whether "cow as cow and milk as milk" were not concerned in the production of some of the more common infectious diseases of man; in other words, whether some malady of the cow were not the cause of milk infection. Mr. POWER'S reasons for urging the probability of this origin of human infectious disease were, firstly, that milk had on several occasions been definitely shown to have given rise to such disease amongst its consumers; and, secondly, the insufficiency of any evidence tending to show that the milk could have become infected after leaving the cow. The suggestion was received with some incredulity, and by some persons with apparent indignation. With regard to diphtheria and its possible relation to garget, it was pointed out that had Mr. POWER "been better acquainted with comparative pathology, or sought to be informed by those who have made cattle diseases their special study, both chemically and experimentally, he would not have troubled the Pathological Society with a hypothesis that admits of the clearest refutation," and, subsequently, "that it was not unlikely legal proceedings would be taken against the author or the Pathological Society."

Probably expression would not have been given to these adverse opinions if it had been more fully recognised that evidence tending to incriminate the cow could only be obtained by a minute analysis of all the circumstances relating to the infection of the milk drinkers. Until this evidence existed a study of cow diseases was only deemed of interest in relation to the welfare of these animals. Their ailments were valued as important only to the extent in which they interfered with cow health, and an ailment which caused nothing but a trivial indisposition, and which did not obviously affect the quantity and quality of the milk, was reckoned as a matter of small concern. So it was concerning cow-pox until JENNER showed the relation of this disease to small-pox, and so it has been since with all other slight maladies of the cow.

It does not, however, require much consideration to show that the more serious disease in the human may have its origin in a much slighter affection in the bovine animal. The relative severity of the symptoms produced by inoculation of small-pox virus in man and in the cow alone teaches this lesson. Nor is it difficult to believe that if "cow as cow" is the cause of disease in man, the malady from which she suffers and which infects man must be of not uncommon occurrence, for the ordinary human infectious diseases are too widely distributed for their origin to be rare. But the more common the cow ailment, the less has it been thought worthy of exceptional consideration. Mr. POWER, in the paper to which we have referred, pointedly remarked that, although it was affirmed that no serious illness had occurred among the cows supplying the milk which undoubtedly gave rise to diphtheria, "this affirmation does not exclude occurrence of cold or other minor ailment among cows." He has not had to wait long for further reasons for thinking that such ailment could give rise to human diseases of serious import. At this moment we are told of a certain malady occurring among cows at a time when the milk produced by them disseminated scarlet fever. The evidence that this malady caused scarlet fever is not yet forthcoming. If there is such evidence, it must be awaited until Mr. POWER'S report on the recent outbreak of scarlatina in West and North London is published; but, in the meantime, a paper which Dr. JAMES CAMERON, the medical officer of health for Hendon, has presented to the Epidemiological Society may be regarded as a notable one, although it does not profess to go further than give account of the clinical features of the affection, of which we hope to learn more from Mr. POWER and Dr. KLEIN at no distant date.

Dr. CAMERON'S story is, briefly told, of the introduction into a cowshed of certain newly purchased cows, and of the appearance of disease first among these and afterwards among other cows in this and other sheds. He describes the affection as a specific contagious disease of not infrequent occurrence, appearing usually in the first instance amongst newly-calved cows, and capable of being communicated to healthy cows by direct inoculation of the teats with the virus conveyed by the hands of cowmen. The symptoms of the disease are those of constitutional disturbance, of discharges from the eyes and nose, of vesicles on the teats and udder, and of an eruption on the hind quarters, accompanied, in severe cases, with sore-throat; and we are told the affection

can be communicated by inoculation to man, and seemingly, though perhaps in another form, by milk. Into greater detail we need not enter here; but assuming that the milk will be found to owe its infectivity to the ailment Dr. CAMERON has described, it is obvious that a very great advance will have been made in our knowledge of the pathology of human infectious disease. We appear, indeed, to be on the threshold of a discovery which may be only second to that of JENNER in its ultimate results. Etiologists have been baffled again and again in their efforts to discover the cause of cases of infectious disease occurring under circumstances that rendered it almost impossible that they should have resulted from antecedent cases. The possible relation of such disease to affections of the lower animals has recently been kept more prominently in view, but the inquiries which have been made in this direction have proved barren, except in so far as they have tended to eliminate other conditions from suspicion. At last there appears some prospect of greater success, but if this is to be attained, the study of bovine maladies must be approached in a way very different from that followed heretofore. They must be thought of in their pathological rather than their commercial relations, and certainly the best results will follow if in any further investigation their possible bearings upon the public health are more willingly recognised.

ONE of the most hopeful signs of the times in the matter of hospitals is the growing activity of those officially connected with them, whether honorarily or otherwise. This activity finds vent and expression in many ways, but chiefly through the Hospitals' Association, which is fast justifying its existence. We have recently once or twice called attention to papers read and discussions which have followed the reading of them at the meetings of the Association; notably to one on the hardship of levying local rates on hospitals, seeing they do so much voluntarily to keep the poor from becoming paupers; and another on sectarian nursing. Both these papers treat of matters of much importance, and are calculated to have practical consequences. The first gave great demonstration of the claims of hospitals to be exempted from rating, and has led to the introduction of a bill for this purpose, which is receiving powerful Parliamentary support from members on both sides of the House. The other has done much to show that sectarianism in nursing in London hospitals is the exception, and finds little favour in the best hospitals.

The annual report for the year 1885 of the Hospitals' Association is before us, and confirms our estimate of the uses of the Association in bringing together those who have special interest or skill in hospital matters. The report suggests that there are three main directions in which the Hospitals' Association can do work of real value to the hospitals and to the public. First, in the collection of facts and data concerning hospitals; secondly, in the appointment of sectional committees; and, thirdly, by the establishment of a journal to disseminate information and serve as a means of communication between hospital workers. In furtherance of the first object a central office has been opened at Norfolk House, Norfolk-street, Strand, where, under an assistant-secretary, all papers, books, and other documents will be methodically arranged and preserved for reference by members and others. This in itself is a great matter, and will tend to diffuse information and promote a healthy rivalry in administration and efficiency. We do not notice in the report any indication that the subject of hospital account-keeping has engaged the attention of the Association. This would furnish an admirable topic for a paper. We do not know any better way of promoting soundness in hospital administration or increasing public confidence in our hospitals than by trying to introduce a sound and uniform system of account-keeping. Under the second head a sectional committee on hospital nursing and domestic management has been appointed at the suggestion of Miss WOOD, the Lady Superintendent of the Hospital for Sick Children, Great Ormond-street, and includes a dozen of the lady superintendents of the principal metropolitan and provincial hospitals. They contemplate establishing a register of nurses, and giving certificates of those duly trained. The public confidence in nursing is hindered by the uncertainty of qualification and character. It will be a great gain to organise a system by which public guarantees of fitness can be given. The Committee is even entertaining the question of establishing a national pension fund for nurses and others engaged in hospital work. This seems, to us at least, rather premature, and likely to distract the attention of the Society from work strictly within its competence. On the whole, the Association gives a good account of its stewardship. It has not tackled the great question of hospital support. Perhaps it is wise in postponing this question to others affecting the efficiency and usefulness of hospitals. If these can be promoted, the public will be more quick to open its large purse and to relieve the great anxieties of those who administer these splendid charities. Those interested in the welfare of hospitals cannot do better than join the Hospitals' Association, which owes much of its success, if not its existence, to Mr. H. C. BURDETT, who is a striking illustration of the fact that a very busy man can find time to render the most valuable help to hospitals.

# Annotations.

"Ne quid nimis."

## THE ROYAL COLLEGE OF PHYSICIANS.

THE special Comitia for the purpose of electing a President of the College of Physicians for the ensuing year was held on the 19th inst. There was a very large attendance of Fellows—indeed, the largest on record,—and the cordial manner in which the result of the election was received proved that there could be no question as to the desirability of Sir W. Jenner being invited to hold office for another year. The proceedings were commenced by the presentation to the College of a portrait of Sir H. Pitman. The presentation was made on behalf of several Fellows by Sir Risdon Bennett, who, in graceful and well-chosen language, pointed out the great services rendered by Sir H. Pitman, and the esteem in which he is held. The portrait, which is a very successful one, is by Mr. Oulese, R.A., and is to be exhibited in the Royal Academy; the copy which it is proposed to give to Lady Pitman was exhibited at the College on Monday. Sir W. Jenner endorsed Sir Risdon Bennett's remarks, and Sir H. Pitman feelingly replied. The President, Sir W. Jenner, then delivered his annual address. He passed in review the affairs of the College

during the past year, in the course of which he alluded to the action taken by the College to promote a scheme for giving greater facilities to students desirous of obtaining medical degrees. He expressed the hope that the two Colleges would be enabled to erect lecture-rooms and laboratories on the site adjacent to the new Examination Hall, so that provision might be made for instruction of the highest class in certain subjects. He then proceeded to sketch the careers of the eleven Fellows who had died during the past year—namely, Dr. Ed. Wells, Dr. A. B. Shepherd, Dr. T. R. Heslop, Dr. J. W. Wardell, Dr. Jas. Russell, Dr. F. Harris, Dr. Gavin Milroy, Dr. S. Monckton, Dr. S. Sutro, Dr. F. Weber, and Dr. W. A. Guy. It is needless to say that the characters and works of these deceased Fellows were described in discriminating and befitting language. On the motion of Dr. F. Farre, a vote of thanks was accorded to the President by acclamation. The election was then proceeded with, the result being that eighty-nine votes were recorded for Sir W. Jenner, and forty were distributed amongst eight other Fellows. The Registrar having declared the result, which was received with loud applause, Sir W. Jenner briefly thanked the Fellows for having done him the unusual honour of electing him for the sixth time to preside over the greatest medical institution of the country.

## PROFESSOR GAUTIER ON NEW LEUCOMAINES.

THE interesting researches carried out during some years by the distinguished chemist of the Collége de France resulted in the discovery of a group of bodies resembling vegetable alkaloids, or rather the alkaloids which had been found by himself and others, to which the term ptomaines, or cadaveric alkaloids, is now applied. But the importance of his discovery lies in the fact that these bodies, to which he gave the name Leucomaines, are found in healthy living matter, and there is every reason to believe were produced by the chemical changes of assimilation and disassimilation. Whether this is the exact truth can only be proved by the results of future observers; but the physiologist is often rather shy of accepting the results of the chemist, armed as the latter is with powerful agents of chemical destruction, and it is often urged that he has himself produced the bodies he has found. Putting this question on one side, the importance of the new views to the subject of medicine can easily be seen. The living being is constantly manufacturing in his own tissues agents which can produce disease or death. We have not the same necessity to search for the ever-present etiological factors of cold and damp, or too hastily summon the microbes to explain our diseases. This discovery was, as might be imagined, seized with delight by the anti-microbists; they had scientific evidence on which to found their opinions, and it must be said that they have in no way neglected to push the theory to its logical consequences. Ever since Professor Gautier's first paper at the Academy of Medicine, about two months ago, the subject for discussion has been the same—the leucomaines *v.* the microbes; and lately a fresh support has been given to the anti-microbists by the announcement from the Professor of two new leucomaines, the poisonous properties of which are undoubted. The first body is called "adenine." It was discovered by M. Kossel of Berlin in the pancreas and spleen, and was described in Hoppe Seyler's *Zeitschrift* of March 11th. It appears to exist in all animal and vegetable cells, and can be extracted from them by neutral reagents; and, further, it appears that it is derived in the cell from the nuclein—a body already known,—since under the influence of water and heat the nuclein produces adenine, phosphoric acid, and albumen. Adenine itself can be wholly transformed into hypoxanthine or sarcine—thus showing its near relation to the bodies we vaguely call nitrogenous metabolites; but a more interesting relation is hydrocyanic acid. The formula of prussic acid is HCN; the formula of adenine is $H_5C_5N_5$, and cyanide of potassium can be produced from it. The second body was isolated by M. Morelle from the spleen. This organ was chosen by the advice of Professor Gautier because of its undoubted purifying action on the blood, being the place where alkaloidal and similar noxious products of metabolism are retained. The physiological properties of this leucomaine were tested, and it was found to be a paralyso-motor, with a powerful action on the medulla oblongata. A small quantity injected under the skin of a guinea-pig appeared at first to produce nothing abnormal, with the exception of immobility, a refusal of food, and some swelling near the point of injection for the first forty hours, but by degrees the depression and suffocation increased, and the animal died asphyxiated. At the necropsy were found congestion of the lungs with subpleural ecchymoses, general œdematous infiltration of the liver, spleen, and kidneys, and a certain hardness of the ventricles, appearing to indicate the arrest of the heart in systole.

## THE REPORT OF THE MINES COMMISSION.

THE long and interesting report just published by the Commission on Accidents in Mines abounds in the practical results of much careful investigation, which has been reluctantly suspended by those engaged in the work. The inquiry, as was to be expected, has been distinguished by the variety of its subject matter. With regard to ventilation, the Commissioners agree that there is need for improvement. The sectional area of the shafts might well be increased in many collieries. The improved methods of shortening the air-courses now coming into use might be more generally applied. The employment of two parallel intake drifts, of which one forms the travelling road, is also worthy of more extended trial. Supervision of workmen, according to the report, has grown in efficiency, there being now one overseer to every twenty or even twelve men. The subject of timbering or supporting the walls of passages receives due attention, and some hints are given as to the avoidance of "miscellaneous" accidents not peculiar to pitmen. The paragraphs most fruitful in fresh suggestion are those which deal with accidents due to explosion. The mischievous effect of coal-dust in dry mines as an aid to such mishaps is well brought out. The Commissioners have experimentally proved that a percentage of marsh gas amounting to 5 per cent., or even 4 per cent., of atmospheric air is decidedly explosive. Half this proportion, however, though not in itself dangerous, and though impossible of detection by ordinary lamp tests will explode if the air be laden even lightly with fine dry coal-dust. Now, it may happen that in blasting, particularly if gunpowder be used, an overcharge in the blast-hole, or the want of sufficient "tamping" or packing with damp non-non-inflammable material, will result in the projection of the heated products of explosion, with flame, into the air of the mine. Such an event is dangerous in dry mines, though little gas be present. The coal-dust is soon alight, the explosion spreads by contact of its particles and their admixture with small quantities of fire-damp, and the worst consequences may follow. It is probable that some of the obscurer causes of accident may be thus explained. To avoid such risks the following rules have been laid down:—1. Before using powder for blasting let coal-dust be removed from that part of the mine as far as possible, and the remainder saturated with water. 2. Where this cannot be done, some other explosive than powder, which flames too readily—lime cartridge or dynamite in conjunction with water—should be used. The latter compound, indeed,

is reported to be safe even in the presence of an explosive mixture of air and fire-damp. Experienced men alone are to be employed in blasting; naked fuses and hot wires are strongly condemned; and the only means of ignition advised by the Commissioners are electric apparatus and such miners' fuses as are contrived with an appliance which fits over the blast-hole and secures their ignition while preventing the ingress of air. In conclusion, two points are specially insisted on—namely, the general employment of indicators which will show the presence of 1 per cent. of marsh gas, and to be used once or twice daily by men appointed to examine the mine, and the substitution of reliable safety lamps for naked lights, in all mines which are dusty or liable to invasion by gas. Lamp stations under ground—i.e., central points where lamps may be lit—must be carefully managed, and the more inflammable oils discarded or allowed only under certain precautions. The opinion of the Commissioners with regard to lamps is somewhat instructive. The older Davy, Clauny, and even Stephenson types have in great measure lost their value, in consequence of the rapid passage of air induced by free ventilation. A current of 800 ft. per minute in an impure atmosphere may, in spite of the wire-gauze, effect an explosion in any one of them. More recent kinds, as that of Gray and others, resist the force of a current moving at the rate of 3000 ft. per minute. Any lamp, however, is dangerous if loose in its fittings, and the only safeguard which has so far suggested itself is that every article of the kind before it is carried underground should be tested in an inflammable mixture of air and gas, which will suffice to indicate any faults of structure. Once lit it must in every case be locked. Electric lighting is already to some extent in use, and may come to be more generally adopted. It is admitted that, while it does not, like the oil-lamp, serve for test purposes, its lighting power is much greater and the risk from its use much less. The Commissioners close their report with a wish that ambulances adapted to the work of rescue in pit accidents were established throughout the coal districts, a wish which will not fail, we hope, to be realised.

## CHOLERA ON THE ADRIATIC COAST.

THE cholera, which for some months past has broken out in isolated attacks in the north of the Adriatic, has made a further extension, the seaport of Brindisi being now affected. On the 15th inst. the disease was declared to be simply of a sporadic type, but the Egyptian authorities at once subjected all arrivals from Brindisi at Alexandria to seven days' quarantine; and later information is to the effect that the Austro-Hungarian Government have, in view of the unsatisfactory state of Venice, ordered seven days' quarantine for all goods coming from Italy. From Rome, too, comes news that the Sanitary Board admit that the cholera at Brindisi is of the Asiatic type, and it has itself ordered the imposition of seven days' quarantine at all Italian ports as regards arrivals from ports on the Adriatic coast.

## HEMIANOPSIA.

THE March number of the *Archives de Neurologie* contains an almost exhaustive article on Hemianopsia by Dr. Seguin of New York. The value of the symptom in diagnosis is summed up in a few propositions, which, so far as our present knowledge goes, may be regarded as accurate. Lateral hemianopsia always indicates an intracranial lesion on the opposite side to the loss in the field of vision. Lateral hemianopsia with immobility of the pupil and neuritis or atrophy of the optic papilla, especially if in combination with symptoms of disease of the base of the brain, is due to alteration in the optic tract or of the lowest visual centres on one side. Lateral hemianopsia, or an analogous geometrical obscuration of the visual field, associated with hemianæsthesia and ataxic or choreiform disorders of movement in one half of the body, without obvious hemiplegia, is probably due to a lesion of the postero-lateral part of the optic thalamus or of the posterior division of the internal capsule. Lateral hemianopsia with complete hemiplegia (becoming spasmodic after some weeks) and hemianæsthesia is probably caused by an extensive lesion of the internal capsule about its knee and posterior limb. Lateral hemianopsia with typical hemiplegia and aphasia, if the right side be affected, together with more or less anæsthesia, is almost certainly due to an extensive superficial lesion in the area irrigated by the middle cerebral artery. Lateral hemianopsia with slight motor weakness of one half of the body, especially if combined with disturbance of the muscular sense, would probably be due to a lesion of the inferior parietal lobule, the angular gyrus and subjacent white matter extending deeply enough to injure or compress the optic radiations in their path towards the visual centre. Simple lateral hemianopsia without motor or sensory troubles, is due to a lesion of the cortical visual centre on the opposite side.

## PUBLIC HEALTH IN TASMANIA.

PUBLIC HEALTH legislation is extending in the colonies. Under the Public Health Act of 1885, passed by the Parliament of Tasmania, each local board is required to appoint a medical officer of health; bye-laws may be made as to many subjects, including control over meat, milk, dairies, &c.; analysts may, and in some cases shall, be appointed, and clauses deal with the prevention of adulteration; the protection of infant life is specially dealt with by means of control over houses of persons receiving infants for nursing and otherwise; infectious disease must at once be reported by the local board to the central board, which has power to make regulations in such matters, and hospitals, ambulances, &c., may be provided under the statute; special powers are also vested in the Governor in Council to isolate houses and even streets in which infection prevails; and penalties are provided for the exposure of infected persons or things. As regards many nuisances, whether connected with trades, animals, or otherwise, the Tasmanian Act follows much in the lines of the English Public Health Act, but it has the advantage of simplicity in dealing with pigs, for it is expressly provided that no person shall keep any swine or a pigsty within 100 ft. of any house in any city or town, or within 50 ft. of any house in a rural municipality. Such a provision would, in this country, have prevented the overthrow of useful bye-laws affecting our rural areas, where regulations dealing with this subject are, in view of recent legal decisions, practically useless. Dr. Henry A. Perkins, of the University of Edinburgh, has been appointed President of the Central Board of Health, and we feel certain that much excellent work will be effected under his administration.

## NEW APPLICATIONS OF CORK IN THE ARTS.

THE peculiar properties of cork which have led to its application to many familiar uses are probably still very imperfectly understood by the majority of the reading public. A careful exposition of its nature by Mr. William Anderson at the Royal Institution comes therefore in good time, and opens up a prospect of wider and more important adaptations of this singular substance in the arts. The essential character of cork consists in its retentive porosity with regard to air. In other words it is a substance composed of fine closed cells whose walls permit the gradual entrance and storage of air while they resist its ready egress, or the entrance of denser fluids. It is therefore not only a gas-holding but a gas-retaining substance, and as such possesses in a greater degree than any other solid the

power of allowing cubical condensation from pressure applied in all directions. It is proposed in various ways to carry out in practice this explanation of the nature of cork. It may be employed, for example, in hydraulic apparatus where the air-laden cork will take the place of air itself, and Mr. Anderson was able to show that in some cases, at all events, it was competent to discharge this function. A suggestion was made that the porosity of cork rendered it a fit substance for the construction of overcoats, and greatly preferable to indiarubber in this respect. The latter part of this suggestion we have no difficulty in conceding, and we hope that experience will prove that it is wholly justifiable. Cork underclothing has been advocated by some on similar grounds; but this proposal does not in our opinion guarantee the wearer the comfort and sanitary advantages which are conferred by the use of wool.

## THE AMERICAN MEDICAL ASSOCIATION AND THE INTERNATIONAL CONGRESS.

THE meeting of the American Medical Association takes place on Tuesday, May 4th. The meeting will be of more than usual importance. The approach of the time for the International Medical Congress makes everyone anxious for its success, and about the action of any Body or any persons that may influence the event. The American Medical Association is one of those bodies which may do much to mar or to make the Congress. We venture to hope that it will not interfere with the executive committee now appointed and apparently doing good work in organising the Congress. This committee was intended to be quite independent, and we gather from the journal of the Association that this independence will be respected. The death of Dr. Flint is a profound fact and factor in the question. Whatever may have been the differences between him and esteemed contemporaries in the United States, we cannot doubt that his death will greatly obliterate the sense of these and intensify the desire to bring the Congress, for which he laboured so much, to an issue worthy of America and of the cause of international medicine. Probably no other death could have caused quite the sense of loss in medical circles in Europe which the removal of Dr. Flint has caused at this moment. But the best consolation of his friends at home and abroad will be the success of the Washington meeting.

## FEMININE PRURIENCY.

WE do not specifically speak of the pruriency of females, though, of course, this vice—for we can call it by no less opprobrious name—attains its highest development in women; but of that particular pruriency which, because females more frequently manifest it, must be regarded as feminine, and which, indeed, has all the feeble filth-love that prompts to the indulgence of prurient curiosity among women of worthless character or debased mind. Hard as it may be to define this graceless quality of the feminine nature, whether occurring in unwomanly women or unmanly men, everyone will recognise its existence, and no right-minded person can regard its manifestation without regret. The judge presiding at the recent trial at the Old Bailey did not condemn this monstrous evil too severely. The fact that women crowded the court, and were not abashed by evidence which no decent newspaper would print, must be held to reflect injuriously on the morals of the day. What, however, is to be said of the mismanagement, or worse, by which a court of justice was reduced to the level of a place of public entertainment of the lowest description? The judge compared it to a "theatre." By so doing he did a wrong to the class of theatrical managers and the Lord Chamberlain. No theatre—in this country, at least—has within the memory of the oldest inhabitant been degraded to the level of the Old Bailey during the recent trial. Why were extra seats provided, or, being provided, why were they allowed to be occupied by women not one whit less despicable than those who brought their knitting and sat and gloated over the spectacle while heads fell under the guillotine? There is blame to cast somewhere, and in the interests of public morality it should be brought home and pressed on the wrong-doers. We cannot determine which is the most significant fact—that women should have been found to crowd the court, or that they should have been permitted thus to disport themselves. We hear of the enfranchisement of women, of their gentleness and purity. Heaven help the morals of this land when the spirit of feminine pruriency displayed in this last public scandal has attained yet higher supremacy, and the Newgate calendar replaces the work of elegant extracts in the boudoir, while the Old Bailey is the chosen place of entertainment for the mothers and sisters of Englishmen.

## THE CONDITION OF THE BLOODVESSELS IN EPITHELIOMA.

A NUMBER of observations on the changes in the bloodvessels accompanying epithelioma have been carried out in Professor Ivanovski's laboratory in St. Petersburg by Dr. Nikolai Yakimoff. He divided his cases into two series. In the first, consisting of fifteen cases, the bloodvessels in the locality of the new growth only were examined, and in the second series of five cases the observations extended to the other organs and bloodvessels of the body. These observations show that the bloodvessels not only near the tumour, but generally throughout the body, become affected, both the larger and the smaller having thickened walls and a diminished lumen. The thickening of the walls affects all three coats, the middle and inner coats being more affected than the external. Hypertrophy and hyaline degeneration both occur, beginning in the small vessels and gradually extending to those of larger size. Hypertrophy is caused by the multiplication of the cellular elements of all three coats, but the white blood-corpuscles may assist in the increase of the external and internal coats, especially in that of the intima, when it happens to be affected by endo-arteritis obliterans. Hyaline degeneration proceeds mostly in young cells which are not fully developed, and in old ones in which proliferation is commencing. This hyaline degeneration may commence either in the nucleus or in the protoplasm of the cells, but most commonly does so in the latter.

## LEGAL MEDICINE IN ITALY.

SINCE Puccinotti's great work "Trattato di Medicina Legale," followed by his "Trattato Medico-legale sulle Ferite," published more than fifty years ago, this important branch of medicine has rather languished in Italy. Quite lately, however, it has shown signs of recovering. The Cavaliere Nicola De Pedys, a graduate of much distinction in surgery and medicine of the Roman University, has bestowed steady attention on medical jurisprudence, and has put forth a first instalment of his studies, entitled "Delle Malattie simulate, e del modo di riconoscerle e scoprirne la frode" (On pretended Maladies, and on the mode of recognising them and detecting their fraud). For the ability shown in this treatise, and for other evidences of medico-legal skill elicited by the Committee of Examiners of the University of Naples, Dr. De Pedys has been unanimously appointed Professor of Legal Medicine in that seat of learning. Commenting on his appointment, an Italian contemporary says that his treatise "Delle Malattie simulate"—a volume of 450 pages—is a unique book on the subject in Italy, and that its author, in his new sphere of

professorial work, may be expected to raise the subject of his lectures from the decrepitude into which it has fallen in the schools throughout the peninsula.

## FROG'S SKIN TRANSPLANTATION.

SOMETIMES slowly healing wounds with feeble granulations are made to increase their activity in the direction of cicatrisation by transplanting minute fragments of epidermal tissue containing some of the cells of the rete Malpighii on the healing surface. O. Petersen has successfully used the skin from the back of a frog. The slowly cicatrising wound was situate on the back of the neck of a man and had resulted from excision of a malignant pustule. A piece of frog's skin the size of the thumb-nail was washed in a 2 per cent. solution and placed upon blotting-paper, when it was divided into two. The grafts were applied to the wound so that the blotting-paper was interposed between them and the fixing plaster. Two days after the transplantation both fragments of epidermis were found to be adherent. Two days later a fresh grafting was made; the former grafts had become roseate. In a further period of forty-eight hours the pigmentation of the grafts had almost disappeared. The cicatrix resulting after this treatment was found to be of great softness and elasticity. Frog's skin as grafts has been recently employed at some of the London hospitals.

## DEATH IN HARNESS.

DR. FRIEDRICH WULFF, a well-known and much-respected St. Petersburg practitioner, while paying a professional visit on the 4th instant, was preparing to examine the patient, when an instrument he held in his hand was heard to drop, and he himself, with the simple exclamation "I feel ill," fell to the ground. Life was found to be extinct. The cause was cardiac disease, which, however, had never but once given him any intimation of its existence, and that was a slight fainting fit about a fortnight previously. He was born in 1829, and had never been seriously ill. He was capable of a large amount of work and required but little sleep, and he died, as he probably would have wished to die, in harness. His medical knowledge is described by the *St. Petersburger Medicinischer Wochenschrift* as encyclopædic, but his favourite branch was surgery, he having held important surgical posts in the Obuchoff Hospital. For many years he was secretary and subsequently vice-president of the Society of St. Petersburg Practitioners, and contributed important papers on tracheotomy, osteomalacia, phosphorus-poisoning, and other subjects, to medical literature.

## THE ANTI-VACCINATION DELUSION.

THE opponents of vaccination have lately held their annual meeting. They continue to abuse the most beneficent Acts that were ever passed. It is a curious study to notice the pilgrimage to Paris from every country in Europe and from America of those in danger of hydrophobia to take the chance of safety from a new and as yet unproved kind of inoculation, and the contemporaneous meeting of a few victims of the anti-vaccination craze in Bloomsbury to disparage and denounce the vaccination whose efficacy has been proved to demonstration by the all but absolute immunity of small-pox hospital nurses. Much was made of the freedom of Leicester and other places from small-pox. The test is to come, and then not a few who are now decrying vaccination will either rush off to the vaccination office, as those bitten by mad dogs are doing to M. Pasteur, or pay the penalty of disfigurement or death. After all, small-pox is the schoolmaster that drives people to vaccination and keeps green the fame of Jenner.

## THE UNIVERSITY OF LONDON.

WE understand that Mr. Magnus's Committee has drawn up a scheme for reforming the University, but that it will not be ready to lay before Convocation at the annual meeting next month; a special meeting will, however, be called for its consideration late in June or early in July. In the scheme the reference to medical degrees will probably be omitted. At the same meeting Convocation will probably be called on to nominate three Fellows, of whom one may be selected to fill the vacancy in the Senate caused by the resignation of Sir Joseph D. Hooker. The last vacancy was filled by an Arts graduate, so it is now the turn of Medicine and Science to elect a representative. The names of Sir Joseph Lister, Mr. Savory, Dr. Barnes, Dr. Bristowe, and Dr. Wilson Fox have been mentioned as prominent medical graduates, and of Mr. Thiselton Dyer, Mr. Magnus, and Mr. Unwin as graduates in the Science Faculty, from whom a choice might be made; but as Mr. Magnus stood on the Arts side at the last election, he will probably decline to be nominated for Science on this occasion.

## PATHOLOGICAL SPLEENS.

DR. YASHVILI describes, in the reports of the Caucasian Medical Society, two interesting cases of pathological spleen. A patient who suffered from malaria was killed by an accident, and the spleen was found to be enlarged, with a closely adherent capsule. In the parenchyma was a collection of pus about the size of a walnut, in the walls of which three osseous lamellæ from one to three centimetres in length were found, all the other organs of the body being healthy. The second case was that of a perfectly healthy man who met with his death by accident. He seems, however, to have suffered at some previous time from malaria. The spleen was found to be diminished in size, being only 7·5 centimetres in length, 3 in breadth, and 1 in thickness. The capsule was membranous, thickened, rough, of a greyish-white colour, and closely adherent to the parenchyma. The latter was of a dark-brown colour, and on section the septa appeared as grey cords and nodes. The author suggests that, as this organ could have been of very little use to its owner, the spleen cannot be an absolutely essential portion of the human economy.

## SMALL-POX IN RURAL AND URBAN DISTRICTS.

THE lessening of the death-rate from small-pox in London and other of the larger centres of population is being followed by cases of small-pox in some smaller towns and rural districts. This should put the local sanitary authorities of these districts on the alert. As a rule the advice of the medical officer of health is readily acted on, but in some instances it is ignored or only partly followed. In small-pox it is most important that the advice of the medical officer of health should be taken, and any sanitary authority neglecting to act on such advice incurs a grave responsibility.

## "A HOSPITAL MISSION WEEK."

THE suggestions recently made by Dr. Wakley for increasing the amount of the contributions to the Hospital Sunday Fund are being very carefully discussed by a special committee of the Mansion House. One of the chief of these is the holding of a series of meetings in six different parts of London, one daily, in the week preceding Hospital Sunday, at which it is hoped that several eminent speakers would advocate the cause of hospitals. These meetings are to be organised by the hospitals themselves in their respective districts, with

the help of the Council of the Hospital Sunday Fund. A great opportunity is here given to the hospitals, which, it is to be hoped, will be heartily used by all hospitals. The staffs of hospitals need to rouse themselves in this matter. The enormous multiplication of institutions making a demand on the liberality of the public put hospitals and their quiet unseen work at a disadvantage. We trust that the hospital authorities will exert themselves to diffuse some evidence of their work in the different districts of London. The churches do their part; but it is reasonably thought that more might be done by the hospitals themselves in asserting their claims, and "the hospital mission week," as Sir Edmund Currie happily called it, will afford the opportunity.

## SUPRA-PUBIC LITHOTOMY.

IN an article on Rupture of the Bladder in the current number (April) of the *Annals of Surgery*, reference is made to two instances where this lesion followed the distension of the viscus with fluid. One in the hands of Verneuil, where a gentle injection of only 125 grammes was immediately followed by the bursting of the bladder; and one in which the rupture occurred whilst Guyon was preparing to perform hypogastric lithotomy. The latter had thrown 200 grammes of boric solution into the bladder and 300 grammes of fluid into the rectal balloon, but the vesical globe did not appear. A little more fluid was injected into the bladder, and the hypogastrium was distended for a moment, but then suddenly became flat. Death occurred in twenty-two hours, and the necropsy showed the walls of the bladder to be 8 mm. thick, with an anterior perforation 12 mm. long. It is desirable that instances of this kind should be borne in mind now that the revival of supra-pubic lithotomy, as adopted by Petersen, is under the consideration of surgeons. The possibility of rupture of the bladder or intestine occurring is certainly a new element of risk in connexion with the removal of stones which cannot be treated by crushing.

## A COLLEGE OF BARBERS.

THE hairdressers would follow suit to the plumbers and be properly diplomated. By all means; nothing could be better advised on their part, or more consonant with the interests of public health and comfort. It is suggested that they should know something of diseases of the hair and skin. Within due limits this may be wise, but we hope there is to be no repetition of the "dentist" bungle, and that the public will not be in peril of a new invasion of *specially*—that is, imperfectly—informed tinkers for a part of the organism. It is the bane of "progress" that each step "onwards and upwards" involves the development of some additional subdivision of skilled labour. We are of those who believe that sooner or later the rage for specialties must be played out, and that then it will be seen that more has been lost than gained by its ascendancy. By all means let barbers be properly trained, and, if needs be, certificated; but we venture to think that the less a pretence to knowledge of skin and hair diseases is encouraged, the better for the craft and for its customers, the public.

## SUTURES IN THE HEART.

A PAPER of Block's communicated to the eleventh congress of the German Surgical Society, 1883, on "Wounds of the Heart and their Cure by Sutures," having attracted the attention of Dr. Philippoff of Kharkoff, he determined to make a series of experiments on dogs and rabbits for the purpose of satisfying himself of the truth of Block's assertion that sutures may, under certain circumstances, be applied to the walls of the heart. Though the Russian observer has not as yet concluded his investigations, he has published a preliminary note in the *Russkaya Meditsina* (No. 11) in which he states that the hearts of some animals will bear transfixion with a fine trocar or a needle, also that wounds of the heart in animals may be cured by means of sutures, but by no means always. He found, too, that the pericardium might be opened in dogs without any serious effects, but that wounds of the large vessels at their exit from the heart were invariably fatal.

## INFLUENCE OF ATTITUDE ON THE FREQUENCY OF THE PULSE.

THE pulse is more frequent in the erect than in the recumbent posture. This statement holds good in general when the individual is healthy. Graves showed that some cases of hypertrophy of the heart prevented the change of rhythm, and Jorissenne has demonstrated the same circumstance in pregnant women, in whom the heart also becomes hypertrophied. Now M. P. Longe has found that the same invariability of the pulse-rate sometimes obtains during the period of menstruation. There was no hypertrophy of the heart in the cases investigated by M. Longe, but the arterial tension is said to have been higher than usual. It may be that increased arterial tension is the real cause of the phenomenon of invariability of the pulse-rate.

## STAINES FEVER HOSPITAL.

A DEPUTATION from Staines waited upon the President of the Local Government Board on the 15th instant, to bring forward their objections to the erection of a hospital for infectious diseases for the use of their district. The attitude of the Staines rural authority is strange in this matter. Having voluntarily united with the town for the purpose, they selected a site, and, with money borrowed under the sanction of the Local Government Board they of their own accord commenced building operations. Then they suddenly turned round, and, alleging reasons of economy, declined to proceed with the structure, and this notwithstanding the prevalence of small-pox and other diseases needing isolation in their midst. We cannot tell what the decision of Mr. Stansfeld will be in the matter, but it is certain that the attitude taken up by the Staines objectors would be best met by a counter-deputation from the more reasonable part of the population who desire to finish the work that has been commenced.

## MULTIPLE HYDATIDS.

A RARE case of multiple hydatids is described by Professors Vinogradoff and Kotovshchukoff in the *Russian Medical Review*. A hydatid about the size of a nut was found in the wall of the left auricle immediately under the pericardium. Three were found in the left lung, one of which was as large as an apple; one was situated in the right lung, and the spleen and the liver both contained hydatids. The results of the post-mortem examination had been to a large extent anticipated by the diagnosis which was made during the patient's life. It may be remarked that the base of the left lung gave a dull note, absence of breath sounds, and vocal resonance.

## LADY MEDICAL MISSIONARIES.

THE Society for promoting Christian Knowledge has decided to offer a studentship, at the rate of £75 a year for four years, to assist ladies in obtaining a complete medical and surgical training, with a view to their devoting themselves as medical missionaries among heathen and Mahommedan nations. No more useful or Christian work could be conceived than to supply the women in the East with the medical skill which a complete education can alone give.

## "THE OUTPUT" OF GRADUATES IN CHICAGO.

A CONTEMPORARY, the *New York Medical Record*, reports the "total annual output" of graduates at Chicago of a "regular" character as 285, to say nothing of the "total output of irregulars," which reached the appalling number of 215, or only seventy less than the "output" of the regulars. And so we read of the "Miami College" graduating a class of forty, the Medical College of Ohio a class of seventy-eight, &c. The *Record* speaks of this prolific production of medical graduates as "a service to the profession"; and our contemporary, the *Journal of the American Medical Association*, speaks with apparent satisfaction of the regulations and provisions for the better education of medical students. We cannot but rejoice at every report of a lengthening of the curriculum, a better standard of preliminary education, and efficient laboratories for practical work in the American schools; but we confess to reading of the wholesale "output" of graduates, as one might read of the output of coals, with something of misgiving. Graduates are rather to be weighed than numbered.

## TRICOPHYTON TONSURANS.

IN a note communicated to the Royal Society (Proceedings of the Royal Society, No. 241) Dr. Thin adduces further evidence in support of his conclusion, arrived at from experiments upon tricophyton tonsurans and previously related to the Society, that the fungus is distinct from ordinary fungi, with which it has hitherto been confounded. The additional evidence is derived from cultivations of the fungus in gelatinised beef-juice, in which it will grow when the spores are quite immersed and excluded from air. The contrast with the growth of penicillium is shown by examining cultures of the two fungi at stated intervals; the penicillium is seen to grow with great rapidity, and to develop the characteristic organs of fructification, whilst "the tricophyton mycelium grows steadily and slowly, with no distinct signs of spore formation, and no trace of organs of fructification."

## UNQUALIFIED ASSISTANTS.

WE report elsewhere a painful case in which the death of a man at Hoxton seems to have resulted from medicines prescribed by the unqualified assistant of Mr. Money. As the jury have returned a verdict of "gross negligence," which the coroner said amounted to one of manslaughter, we suspend judgment in this particular case. But we are bound to lose no opportunity of expressing our surprise that many medical men should still continue to employ unqualified assistants as they do, leaving them often in complete or almost complete charge of cases. In many instances the assistant is taken for, and understood to be, the principal, and continues to attend till death appears in view and all control of the case is lost.

## OPERATIONS IN COUNTRY HOSPITALS.

SENIOR students are often lamentably ignorant of the vast field for improving their knowledge of surgery which exists in many provincial hospitals to which no medical school is attached—a field which as yet is, comparatively speaking, unexplored, and which is certain in the not distant future to receive more attention than has yet been given to it. Such being the case, no apology is needed for publishing a list of operations which were performed on the 17th ult. (the ordinary operating day) at the North Staffordshire Infirmary. They were as follows:—Colotomy, amputation of thigh, gastrostomy, radical cure of hernia, operations for tumours of testicle and hernia, epithelioma of tongue (excision), condylomata, and malignant tumour of leg (resulting, after consultation, in amputation of thigh). This list is one which will bear comparison with that presented at the majority of the hospitals which are frequented by students of surgery, and is one which, we are assured, is not exceptional in the importance and number of the items of which it is composed.

## KOCH'S BACILLI IN ADDISON'S DISEASE.

DR. GOLDENBLUM of Dorpat gives in the *Vrach* (No. 11, 1886) an account of a case of Addison's disease occurring in a young man, in which the suprarenal capsules, which were cheesy, contained Koch's bacilli. The other organs of the body, including the lungs, which were emphysematous, were also examined, but no bacilli were found. The suprarenal capsules were immersed in alcohol and sections made, which were stained by Ehrlich's method. A previous case of Addison's disease in which Koch's bacilli were found in the suprarenal capsules was reported in the *Vrach* (No. 1, 1886), but in that case the diagnosis was somewhat less clear, the body not being distinctly bronzed, though a greyish discolouration was noted; there was also tuberculosis in the lung, which did not exist in Dr. Goldenblum's case.

## FOREIGN PROFESSORSHIPS.

THE chair of Practical Pharmacy in the Madrid Faculty of Pharmacy has been filled by the appointment of Dr. Don Ricardo de Sádaba y Garcia del Real, supernumerary professor in the faculty. Dr. S. Kostyurin, of the St. Petersburg Military Medical Academy, has been appointed to the Professorship of General Pathology in the University of Kharkoff. Dr. Nikolai Voronzovski, Professor of Operative Surgery in the University of Moscow, has just died, leaving £2400 to found scholarships, and £1000 to found a library for the Medical Faculty.

IN reporting to Colonel Sir Francis Bolton on the composition and quality of daily samples of the water supplied to the metropolis during March, Messrs. Crookes, Odling, and Tidy state that they have analysed 189 samples derived from the mains of the seven water companies taking their supply from the Thames and the Lea, and "the whole were found to be perfectly clear, bright, and well filtered." They add that the condition of the water was in all respects thoroughly satisfactory.

THE death is announced of Señor Don Eugenio Alau, a Spanish physician, who had occupied the posts of Civil Governor in various provinces, of Rector and Professor in the University of Valladolid, Senator of the Kingdom and Councillor of Public Instruction. He received the Grand Cross of Isabella the Catholic, besides being the bearer of many other honours awarded to him for his distinguished services.

WE understand that at the forthcoming festival of the Royal Medical Benevolent College at the Holborn Restaurant on Tuesday, May 11th, the music will be entirely in the hands of members of the medical profession, including such distinguished amateurs as Dr. Lavies, Mr. Critchett, Mr. Hepburn, and others, Mr. Ganz presiding at the pianoforte.

IN reply to a deputation of anti-vaccinationists, Mr. Stansfeld recently stated that he thought it would be useless to expect the House of Commons to accede to the abolition of compulsory vaccination.

IT is stated that Messrs. Vanderbilt Bros. have given a quarter of a million dollars towards the erection and endowment of a clinical building for the College of Physicians and Surgeons in New York.

*The Times* Russian telegrams of April 16th contain information about the Pend-jeh sore which was noticed in THE LANCET of April 10th. This disease is attracting a good deal of attention in Russia. It is now attributed to bacteria in the water of the Murghab valley, and alarm is felt lest an army should be incapacitated by it.

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AN Order in Council has been published reappointing, under the provisions of the Medical Act, Mr. John Simon, C.B., F.R.S., and Mr. T. Pridgin Teale, F.R.C.S., to be members of the General Council of Medical Education and Registration of the United Kingdom for a further term of five years from May 23rd next.

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ANOTHER of M. Pasteur's Russian patients, the fourth, has, it is announced, died of hydrophobia.

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# Pharmacology and Therapeutics.

### ALETRIS CORDIAL.

WE have received from Messrs. Burgoyne, Burbidges, and Co. specimens of "Aletris Cordial," which is said to be efficacious as a "uterine tonic and restorative." Of this special preparation we have had no experience; but the drug itself, the "Aletris Farinosa," or "Star-grass," of Central America, is familiar enough to all who take an interest in the progress of therapeutical science. The root from which presumably the cordial is prepared has many useful properties, and has long enjoyed a reputation in the treatment of various forms of uterine complaints. A thorough investigation of its medicinal properties is a desideratum.

### KENNEDY'S EXTRACT OF PINUS CANADENSIS.

The Pinus Canadensis is presumably the Pix Canadensis or Canada pitch, a resinous exudation from the hemlock or hemlock spruce of Canada and the United States. It is a non-irritating mucous astringent, and is likely to prove useful in catarrh, leucorrhœa, gonorrhœa, and other conditions attended with profuse discharge. It was frequently employed by the late Dr. Marion Sims, and is supposed to be a valuable remedy.

### TABLOIDS OF COMPRESSED TRINITRINE.

Trinitrine is the new name for nitro-glycerine, the general adoption of which has been advocated by Dujardin-Beaumetz, Huchard, and other continental observers. Its occurrence in prescriptions is less likely to alarm the susceptibilities of delicate, nervous, or highly-strung patients than the more commonly employed term. The tabloids of compressed trinitrine are made with sugar of milk, which is admirably adapted for the purpose, and dissolves much more rapidly than any of the ordinarily employed excipients. We have made trial of these new tabloids, and find that they answer admirably in cases of angina pectoris, giving prompt relief to the paroxysms of pain. The compound trinitrine tabloids, containing, in addition to nitro-glycerine, nitrite of amyl, menthol, and capsicum, constitute a valuable preparation, and will in all probability speedily replace the officinal formula.

### QUEBRACHO BLANCO.

The origin and therapeutic value of the barks known under the name of Quebracho blanco form the subject of an interesting communication by Charles Eloy and Henri Huchard in the *Archives de Physiologie*, published this month. Though long in common use in South America, it was only as recently as 1878 that Penzoldt of Erlangen employed it in Europe. Since that period, however, several physicians and pharmacologists have studied the effects it produces, and the general agreement that has been obtained shows that its effects are constant; and there can be no doubt that a new and valuable drug will by its introduction be added to our materia medica. Botanical investigation has demonstrated that the bark named Quebracho really belongs to four different plants—namely, the Aspidosperma, Quebracho, or Quebracho blanco, belonging to the natural order Apocynaceæ, the wood of which is very hard and furnishes the active principles of which mention will presently be made; the Lexopterygium Lorenzii or Quebracho Colorado of the natural order Terebinthinaceæ, the bark of which is rich in tannin; the Iodina rhumbifolia or Quebracho flogo, of the family of Ilicineæ; and, lastly, the Machærium fœtidum or Quebracho tipa, of the natural order Leguminoseæ. The two last are little known, and perhaps possess no medicinal value. The best barks come from Pilciao, and are obtained, like those furnishing quinine, from the smaller branches of the trees. The active principles hitherto obtained from them are aspidospermine, $C_{22}H_{30}N_2O_2$, considered by some to be identical with paytine; quebrachine, $C_{21}H_{26}N_2O_2$; aspidospermatine, $C_{22}H_{32}N_2O_2$; hypoquebrachine, aspidosamine, and quebrachamine. The most remarkable influence exerted by the bark, as well as by these substances, and especially by quebrachine and aspidospermine, is their power of lowering the temperature of the body. The administration of seventy-five milligrammes per kilogramme of body weight to a rabbit caused the temperature in the rectum to fall to 3° C. in the course of forty-nine minutes. This depression of temperature is associated with some remarkable alterations in the respiratory function. The first effect is to render the respirations deeper, but not more rapid; then after the lapse of a quarter of an hour the respirations become more rapid in the proportion of 11 : 12 in the rabbit and 10 : 11 in the dog, an effect that is persistent for a long time. When larger and toxic doses are given the respirations become arhythmic and shallower till death occurs. Quebrachine is more active and more poisonous than aspidospermine, whilst its antithermic properties are still greater, a diminution of temperature amounting to from 5° to 7° C. having been observed in ten minutes. Other symptoms observed in dogs, when moderate doses of five centigrammes were given by the mouth, were, in the course of a few minutes, convulsions, paralysis of the hinder limbs, and tumultous action of the heart, which lasted for an hour and a half. When recovery took place M. Petrone observed reflex modifications of sensibility, mydriasis, and congestion of the auricle of the ear. Eloy and Huchard, however, did not perceive any mydriasis. In their experiments pure aspidospermine produced spasms of the hind limbs and trembling of the muscles, passing, when the poison was not eliminated, into paralysis, but when smaller doses were given terminating in recovery. The sensibility remained intact. The frequency of the cardiac pulsations fell from 156 to 126, the vessels of the auricle becoming at the same time intensely reddened. In some instances the galvanic excitability of the phrenic nerve was observed to be augmented both with aspidospermine and with quebrachine. Both substances caused hyper-secretion of the kidney, of the glands of the intestines, and of the salivary glands. It is clear from these facts that in quebracho bark proximate principles exist which may prove of great value in the treatment of disease. It has been recommended in dyspnœa, both of pulmonary and of cardiac origin, and has been found to possess some, at least, of the value assigned to it by the American aborigines, who regard it as febrifuge, anti-diarrhœal, and diuretic.

### EL KELLAH.

This plant, the Ammi visnaga of botanists, has furnished M. Moustapha with a ternary compound, kelline, having narcotic properties, and in animals inducing vomiting, with paralysis of the hinder extremities, irregularity of the heart, and slowing of the respiration. The fruit has been used therapeutically in the proportion of 6 to 8 per cent. as a tonic and astringent gargle in cases of stomatitis, dental caries, and gingivitis. In daily doses of 150 grammes, the decoction of the seeds has been employed for rheumatism. An ointment made by triturating the seeds of kellah with oil or a fatty substance serves for frictionising the joints and articulations. A decoction of from 18 to 20 grammes of the seeds in 160 grammes of water is said to be efficacious in

gravel. Finally, the decoction is stated to be a febrifuge, and the leaves are also employed in the preparation of cataplasms.

HOPEINE.

The investigations of Dr. Paul appear *(Pharmaceutical Journal)* to prove that hopeine is an artificial product, which has been manufactured by the admixture of morphine and cocaine. At all events, these two alkaloids were detected in several specimens analysed by him. And as the sources of such alkaloids are of widely different botanical origin, the above conclusion appears probable.

## THE FIFTEENTH CONGRESS OF THE GERMAN SOCIETY FOR THE ADVANCEMENT OF SURGERY.

THIS Congress was opened on the 7th inst. at Berlin, in the Aula of the University, the attendance of Berlin physicians and guests being very numerous. Amongst those present were noticed Volkmann, Czerny (Heidelberg), Mikulicz from Krakow, Schœde from Hamburg, Roser from Marburg, Gurlt, Küster, Israel, Bergmann (all four from Berlin), Kœnig from Gottingen, and Thiersch from Leipsic. The Vice-president, von Volkmann, opened the meeting, expressing his regret that the President, the highly honoured von Langenbeck, was prevented by illness from being present at the Congress. As an acknowledgment of the high services of the veteran surgeon on behalf of the Society, he proposed that they should elect him as honorary president. The proposal was accepted with acclamation, and the resolution telegraphed to von Langenbeck at Wiesbaden. Sir James Paget and Sir Joseph Lister in London, who at the last Congress were elected honorary members, sent communications expressing their sense of the honour shown them, and requested that their acknowledgments might be communicated to the Society. The Society has lost several prominent members through death, amongst them being Professor Uhde of Brunswick, Vogt, surgeon at Greifswald, Starke of Berlin, and Burow of Kœnigsberg. All were highly esteemed on account of their personal qualities and extensive knowledge. Five members have left the Society and seventeen have entered, so that the Society now numbers 359 members. Von Volkmann was elected chairman, von Bergmann vice-chairman, von Gurlt (from Berlin) resident secretary, and von Küster resident treasurer. Herrn Schœnborn from Kœnigsberg, Thiersch, Kœnig, Roth from Dresden, and Esmarch of Kiel complete the committee.

The course of addresses was opened by Professor Kraske of Freiburg with a discussion on the Etiology and Pathogenesis of Acute Osteo-myelitis. Roser, Mikulicz, Fraenzel, and others took part in this discussion.

Afterwards Rinne, from Greifswald, spoke on the Drainage of Abscesses of the Abdomen.

The next address was by Professor Rosenbach, from Göttingen, on the Etiology of Traumatic Tetanus in Human Beings. Hitherto, the author observed, no satisfactory explanation has been forthcoming of this affection. The relation of the wound to the tetanus could not be direct. Wounds containing foreign bodies, wounds attended with gangrene, and gunshot wounds in the upper and lower thigh show principally an inclination to cause tetanus. The experiment of injecting blood and matter of tetanised beings into dogs has given negative results, the dog remaining entirely unaffected; but results have been obtained with rabbits, guinea-pigs, and mice. Curiously enough, the inoculation of these animals with earth caused tetanus, with symptoms quite equal to those of traumatic tetanus in man and the horse, the latter often dying of the disease. From a man who, in consequence of frozen feet, had died of tetanus, the speaker received, through repeated inoculation on guinea-pigs and mice, material for microscopic examination, and discovered in it those fine bristle-like split fungi which Nicolaier received from the cases inoculated with garden earth. The fungus is a bacillus, and is most likely the cause of tetanus through the secretion of a sort of strychnine poison.

After an adjournment for refreshment, an address by Dr. Landerer from Leipsic followed on Transfusion and Infusion. The speaker said that the use of a solution of common salt, recommended by Kronecker and Sander, had secured a little better result than had attended the employment of blood. Nevertheless this method was also unsatisfactory, because the introduced liquid contained scarcely any nutritive material, and consequently, after a short revival of the patient, his death could not be prevented if more than 4½ per cent. of the body weight in blood had been lost. He had therefore employed a mixture of one part of defibrinated blood to four parts of the solution of alkaline salt. With this he had obtained good results, even if more than 5 per cent. of blood had been lost. At the suggestion of Professor Ludwig, of Leipsic, a solution of alkaline salt mixed with 3 per cent. of common cane sugar was then used. Trials on animals showed that this operated well, even with a loss of 6½ per cent. of blood; after a fortnight the loss of blood particles was replaced. Various causes were given in explanation. First, the blood particles keep better in a solution of sugar than in a solution of salt; then, again, sugar draws great quantities of moisture out of the parenchymatised webs, and procures in this way nutritious powers for the thinned blood; sugar is in itself nutritious and burns very quickly, therefore quickly brings warmth to the body, increases the pressure of blood, &c.

At the meeting on the 8th inst., a discussion resolved on at last year's Congress concerning Operations on Stone in the Bladder was held. In was opened by Kœnig from Göttingen, and continued by von Bergmann, Trendlenburg, von Volkmann, Schœde, Fürstenheim, Schœnborn, Sonnenburg, Israel, Gussenbauer, Küster, Löbker, and Petersen.

It was decided to bring forward for discussion at the next Congress Operations on Obstruction of the Bowels and on Peritonitis and Perforation of the Gut.

## UNQUALIFIED ASSISTANTS AND BRANCH DISPENSARIES.

ON Friday, the 16th inst., Mr. George Collier, Deputy Coroner for East Middlesex, held an adjourned inquiry at the Shoreditch Town Hall relative to the death of Henry Hibbard, aged fifty-four, of 45, Bookham-street, Hoxton, who had been in the employ of Messrs. Barron, Harvey, and Co., wholesale druggists, as warehouseman, for a period of twenty-six years.

Mrs. Ellen Hibbard deposed that on Saturday, March 27th, deceased did not get up, and complained of want of sleep. He sent her to Mr. Money's surgery for a bottle of composing mixture, he having had one bottle before. She went as directed, and deceased took the medicine. He got no sleep, and on the Sunday he had another bottle. On the Monday he was worse. She then went to the surgery and asked the doctor to call and visit the patient, which he did, and told her to call for the medicine, telling her it would be two doses, which were to be given in a little stout. She fetched the medicine and gave it as directed—one dose when she got home (about 3.15 in the afternoon), and the other at 6 o'clock, as the first did not have the desired effect. Shortly after taking the second dose her husband became insensible. She went for the doctor, and Mr. Money himself came. Up to that time she thought that she had been dealing with a properly qualified man, but found then that it was the assistant who had been prescribing for her husband. Her husband died at about 8.15. On Tuesday Mr. Money called and told her it would be all right; that a mistake had been made, as the bottle contained three doses instead of two, and he would have to communicate with the coroner before giving the certificate. He took the bottle away with him. The bottle produced (an ordinary six-ounce medicine bottle) was similar. She did not read the label, although she could read, as she received such plain instructions. She was sure she was told to give the second dose about two or three hours after the first. The assistant admitted that she had followed his verbal directions.

Absalom William Head, 29, East-road, in reply to the coroner, said he was possessed of no medical qualifications. He had been assistant to Mr. Money for thirteen months, but he had been connected with the profession twenty-six years. He had sole charge of this dispensary. Witness first saw the deceased on the 29th ult., when he was delirious. He was quite positive he told Mrs. Hibbard that four hours were to elapse between the doses. He did not tell her there

were three doses. He found he had got no two-ounce bottles, so he made three doses, and wrote on the label, "One-third part to be taken every four hours in half a glass of stout if relief is not procured."

Mr. Money gave evidence on the last occasion that the death was due to narcotic poisoning. He was now recalled.

The Coroner: If you had auscultated the case should you have had any difficulty in arriving at the conclusion that the heart was diseased?—Mr. Money: I say emphatically (I was present at the post-mortem) that the fatty degeneration of the heart I witnessed was such as could not be determined by the stethoscope.—The Coroner: You concur generally as to the correctness of the post-mortem?—The Witness: Oh, certainly.

Mr. Bagster Phillips, divisional surgeon, H Division, 2, Spital-square, said, in accordance with the request of the coroner, he had made a post-mortem examination of the deceased. Mr. Money and Mr. Head were present. He made the examination on the 3rd inst. As to the general appearances of the body, he said it was fast decomposing. It was well nourished. There were no marks of violence. The coverings of the brain—skin and scalp—were very congested, as was also the substance of the skull. The membranes of the brain were loaded with blood and somewhat thickened, and not healthily transparent. The substance of the brain was venously congested and of a fair consistence. The lungs were loaded with blood. The heart was large, flabby, and the degeneration had taken place somewhat extensively, but was not in a very advanced stage as regarded the fibres themselves. The walls were very thin, especially of the ventricle. The stomach was very large and almost empty. The whole structure of it was degenerated, denoting that the deceased was a very dyspeptic subject when alive. The liver did not indicate intemperate habits so much as the stomach. He should give the opinion, from the condition of the stomach and liver, that the man was of intemperate habits, not to say a habitual drunkard, but a man who indulged in "nips." Spleen, normal; kidneys fairly healthy for a man in such a state of health. Intestines comparatively healthy, but showed the man had not taken much food very recently. His opinion of the cause of death was failure of the breathing power—asphyxia. He should say that death was caused by the medicine acting upon a subject very prone to the action of such medicine in a deleterious way.

The Coroner: Supposing you had been called into a case of this kind, would you have had any difficulty in arriving at a conclusion that the patient had a weak heart?—Mr. Phillips: No, I think not.—The Coroner: Do you think, under the circumstances, the remedies prescribed were proper?—Mr. Phillips replied that this was a very difficult question to answer directly. He should prefer to say that he should have hesitated very much to give such a dose as indicated by the prescription, and there were other remedies he should have chosen rather than chloral and morphia, with a knowledge of the state of the heart of the deceased. He would give it as his opinion that it was unadvisable to give those remedies in such a state as the man was. Had these not been given, the man would not then have died.

The Coroner summed up the evidence and carefully explained the law of manslaughter to the jury, and then observed: I will leave the case in your hands, merely just casually remarking, first of all, upon what I must discountenance, namely—the prevailing practice (for it prevails to a large extent in this neighbourhood) of setting up these dispensaries and putting unqualified assistants in them. If there had been no dispensary of this kind in the neighbourhood, this man's death would not have occurred. There is no reason why, if a man's practice is extending, he should not put up a branch establishment, and attend the poor for a small fee. But I must say these dispensaries are commenced with a deception on the public. In the first place, the public are attracted by the smallness of the fee they have to pay; and, in the second place, they believe they are being treated by the qualified practitioner whose name usually appears upon the door. At the large hospital in the neighbourhood—the London Hospital—all the house-surgeons are obliged to be qualified. Yet here is a system by which any man can come forward and engage himself, and practise upon the public just as he likes. Unless something happens, and he brings himself within the criminal law, he goes on with impunity. Under the circumstances, I think I may call it a most iniquitous system, one that should be put down, and one I always endeavour to put down when opportunity offers.

The jury retired to consider their verdict, and shortly afterwards they returned, and the foreman said their verdict was: 'Gross negligence against the assistant."—The Coroner: That amounts to a verdict of manslaughter.

The assistant was thereupon taken into custody on the Coroner's warrant.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 6100 births and 3535 deaths were registered during the week ending April 17th. The annual death-rate in these towns, which had steadily declined in the preceding four weeks from 29·3 to 20·1 per 1000, was last week 20·3. During the thirteen weeks of last quarter the death-rate in these towns averaged 24·4 per 1000, and corresponded with the mean rate in the first quarters of the ten years 1876-85. The lowest rates in these towns last week were 14·4 in Wolverhampton, 14·7 in Sunderland, 15·3 in Birkenhead, and 15·5 in Cardiff. The rates in the other towns ranged upwards to 25·2 in Plymouth, 25·3 in Portsmouth, 27·1 in Manchester, and 32·3 in Blackburn. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 359 and 363 in the preceding two weeks, were 367 last week; they included 140 from whooping-cough, 114 from measles, 43 from diarrhœa, 26 from diphtheria, 23 from "fever" (principally enteric), 21 from scarlet fever, and not one from small-pox. The lowest death-rates from these zymotic diseases were recorded last week in Hull and Leicester, and the highest in Birmingham, Blackburn, and Portsmouth. The greatest mortality from whooping-cough occurred in Plymouth and Salford; and from measles in Oldham, Bolton, Blackburn, Birmingham, and Portsmouth. The 26 deaths from diphtheria in the twenty-eight towns included 17 in London and 2 in Liverpool. Small-pox caused but one death among the residents of London and its outer ring, and not one in any of the twenty-seven large provincial towns. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had been 8, 11, and 13 on the preceding three Saturdays, had further increased to 16 at the end of last week; 6 new cases were admitted to these hospitals during the week, against 4 and 3 in the previous two weeks. The Highgate Small-pox Hospital contained 3 patients on Saturday last, one case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had declined in the preceding four weeks from 917 to 348, were last week 362, and were 105 below the corrected weekly average. The causes of 76, or 2·2 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Sunderland, Bradford, and Wolverhampton. The largest proportions of uncertified deaths were registered in Halifax, Hull, and Newcastle-upon-Tyne.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had steadily declined in the preceding four weeks from 27·9 to 21·2, further fell to 20·5 in the week ending April 17th, but exceeded by 0·2 the mean rate during the same week in the twenty-eight English towns. The rates in the Scotch towns last week ranged from 14·6 in Greenock and 16·2 in Aberdeen, to 22·8 in Glasgow and 24·5 in Perth. The 507 deaths in the eight towns showed a further decline of 17 from the numbers returned in the preceding four weeks, and included 10 which were referred to whooping-cough, 9 to diarrhœa, 8 to measles, 4 to "fever" (typhus, enteric, or simple), 2 to diphtheria, 1 to small-pox, and not one to scarlet fever; in all, 34 deaths resulted from these principal zymotic diseases, against 62, 46, and 39 in the preceding three weeks. These 34 deaths were equal to an annual rate of 1·4 per 1000, which was 0·7 below the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 29, 14, and 11 in the previous three weeks, further declined last week to 10, of which 8 occurred in Glasgow and 2

in Aberdeen. The 9 deaths attributed to diarrhœa also showed a decline from recent weekly numbers, and included 3 in Glasgow and 3 in Aberdeen. The 8 fatal cases of measles, however, showed an increase; 7 were returned in Edinburgh. Two of the 4 deaths referred to "fever" occurred in Paisley, and the fatal case of small-pox in Edinburgh. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had declined in the preceding four weeks from 204 to 109, rose again last week to 122, but were 9 above the number returned in the corresponding week of last year. The causes of 61, or 12 per cent., of the deaths in the eight towns last week were not certified.

### HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had steadily declined in the preceding four weeks from 40·5 to 33·0 per 1000, further fell to 25·0 in the week ending April 17th. During the thirteen weeks of last quarter the death-rate in the city averaged no less than 33·5 per 1000; the mean rate during the same period did not exceed 24·8 in London and 20·0 in Edinburgh. The 169 deaths in Dublin last week showed a further decline of 54 from the numbers in recent weeks, and included 16 which were referred to the principal zymotic diseases, against 18, 15, and 16 in the previous three weeks; 5 resulted from whooping-cough, 3 from "fever" (typhus, enteric, or simple), 3 from diphtheria, 3 from diarrhœa, 2 from scarlet fever, and not one either from measles or small-pox. These 16 deaths were equal to an annual rate of 2·4 per 1000, the rates from the same diseases being 2·3 in London and 2·0 in Edinburgh. The fatal cases of whooping-cough, which had been 6 and 11 in the preceding two weeks, declined again last week to 5. The deaths from "fever" and scarlet fever corresponded with the numbers in the previous week, while those from diarrhœa and diphtheria exceeded the numbers in recent weeks. The 3 deaths referred to diphtheria, were, with the exception of one in February, the first deaths from this disease recorded in the city since the beginning of this year. Three inquest cases and two deaths from violence were registered; and 44, or more than a quarter of the deaths, were recorded in public institutions. The deaths both of infants and of elderly persons showed a considerable further decline from the numbers in recent weeks. The causes of 20, or nearly 12 per cent., of the deaths registered during the week were not certified.

## THE SERVICES.

WAR OFFICE.—Army Medical Staff: Surgeon-Major John Butler Hamilton, M.D., to be Brigade Surgeon, vice Oliver Codrington, M.D., retired; Surgeon-Major Franklin Gillespie, M.D., is granted retired pay, with the honorary rank of Brigade Surgeon; Surgeon-Major Daniel Charles Grose Bourns is placed on temporary half-pay, on account of ill-health; Surgeon-Major Ulick Albert Jenings, M.D., is granted retired pay, with the honorary rank of Brigade Surgeon; Surgeon-Major James Henry Ussher, M.B., half-pay, has retired from the Service, receiving a gratuity.

ADMIRALTY.—The following appointments have been made:—Staff Surgeon William Henry Patterson, to the *Sapphire;* Surgeon Clement Alsop, to the *Cockchafer;* Surgeon George Hamilton H. Symonds, to the *Merlin;* and Surgeon Timothy Joseph Crowley, to the *Espoir.*

YEOMANRY CAVALRY.—Lancashire Hussars: Damer Harrisson, Gent., to be Surgeon.

ARTILLERY VOLUNTEERS.—1st Sussex: Acting Surgeon Henry Algernon Hodson resigns his appointment.

RIFLE VOLUNTEERS.—1st Cumberland: Surgeon C. S. Hall is granted the honorary rank of Surgeon-Major.—1st Forfarshire: The undermentioned Surgeons are granted the honorary rank of Surgeon-Major:—David MacEwan and Alexander Campbell. These gentlemen were in our last issue erroneously stated to be members of the 3rd Volunteer Battalion (the Essex Regiment).—2nd Volunteer Battalion, the Royal Welsh Fusiliers: Acting Surgeon H. L. Davies resigns his appointment.—2nd (the Weald of Kent) Volunteer Battalion, the Buffs (East Kent Regiment): Surgeon H. B. Wood is granted the honorary rank of Surgeon-Major.

# Correspondence.

"Audi alteram partem."

## INJURY TO GENERATIVE ORGANS IN LATERAL LITHOTOMY.

*To the Editor of* THE LANCET.

SIR,—Will you allow me to amplify the remarks I am reported (in your last issue) to have made at the Clinical Society on the above subject?

In referring to the asserted danger of wounding the ejaculatory duct on one side, or even on both sides, during the performance of lateral lithotomy, as taught by Von Langenbeck and accepted by other authorities, my object was to elicit definite information on the subject. But I did not succeed. On the contrary, Mr. Walsham, in reply to my question, said he had no evidence to adduce, and Mr. Bryant and Mr. Hutchinson, at the close of the meeting, both told me that they had not met with any cases in practice. Nor have I.

It would be really interesting if this question could be definitely settled, as it readily may be, by recording any cases on which the doctrine rests and submitting them to scientific scrutiny. In any suspected cases, evidence must be forthcoming that the results are really due to the lithotomy and are not congenital malformations.

I presume that we should expect the danger to be greatest in those operated upon in early childhood, when available space is limited, and while the tissues are soft and easily torn; and that non-development of the testis or testes would be the lesion to look for. Rupture of or injury to the ejaculatory ducts or vas deferens is inflicted (if at all) by the laceration which follows the extraction of a large stone, rather than by the surgeon's knife; large stones are usually found only among old persons. On the other hand, secondary changes in the generative apparatus are less likely to follow in old persons, and less likely to attract attention. In young children, however, subsequent want of development of the affected organ would be more certain to follow; it would most assuredly attract the attention of parents, and so come within professional cognizance.

It is desirable that the truth on this matter should be known. If the danger exists, it will be a patent argument in favour of the supra-pubic operation, and one, by the way, not advanced by its advocates in the recent discussion at the Royal Medical and Chirurgical Society; while, if the danger is imaginary, surgeons will be glad to know it.

I am, Sir, yours faithfully,

London, April 19th, 1886. ROBERT WM. PARKER.

## ZINC PLATES IN IRON BOILERS: A CAUTION.

*To the Editor of* THE LANCET.

SIR,—During a recent voyage to Queensland, in the capacity of ship surgeon in a new steam-ship recently built in Glasgow, an outbreak of colic occurred towards the conclusion of the voyage, attacking certain firemen, sailors, and others, which, assuming more or less an epidemic character, seemed to suggest some special cause for its occurrence. In one case the cramps were so severe as to suggest the presence of cholera poison, an idea which was fostered from the circumstance of the report of the outbreak of "cholera" on the *Dorunda* steamship, one of the Queensland Government mail and emigrant line, which had preceded us at Batavia. Presumably actuated by this idea, one of the crew, an old fireman, on his own responsibility and without my knowledge, took one of the men then ailing—the "donkey-engine" man, whose symptoms were severe—into the watercloset, stripped him naked, and, having procured a bucketful of hot water into which he placed a handful of mustard flour, gave the man therewith a vigorous sponge bath. I subsequently got the patient into his bunk, and, placing turpentine stupes on his abdomen, gave him a dose of castor oil and laudanum; the latter a line of treatment which I had found serviceable in previous cases, with beneficial results, so that in a day or two he was fit for work again. In addition to the colic there was also noticeable, during the latter part of the voyage, a great tendency to suppuration, boils and the like,

where the skin was scratched or otherwise broken, or even where exposed to the irritation of the clothing long wet with salt water. I should say that up to Batavia and beyond we had been using Loch Katrine water, supplemented by a small supply from Plymouth, both being of unquestionable quality. Any probable intention of taking in a further supply from the port of Batavia, where we coaled, was at my suggestion entirely abandoned by the captain, especially as he had there been apprised, by telegram, of the occurrence of cholera on the *Dorunda* some time after leaving the port at which we then were; and, in fact, a message had been sent prohibiting the entrance of vessels proceeding to Queensland ports within the harbour of Batavia in consequence of that circumstance, but it arrived too late to admit of the captain's compliance with the order. We were then under the necessity of condensing the sea-water, a task which the chief engineer readily undertook.

In view of the epidemic character of the symptoms of colic and abdominal cramps, one of the engineers suggested the possibility of the zinc plates which were fixed in the "donkey boiler"—whence our supply of water for drinking purposes was condensed—in order to prevent the corrosion of the iron as being the cause—an idea, I may say, not favourably received by some others. I thought it advisable, however, to procure a sample of the water in order to test it for the presence of zinc, which I accordingly did. I may say that the weather was hot and wet, and the quantity of water consumed, especially by the poor firemen in their arduous toil, in the shape of meal and water, was unusually large. In the process of galvanising, or coating iron with zinc, the latter metal not only acts as a varnish or protective, but becomes oxidised, as you are aware, before the iron is so acted upon, even though its surface be exposed. L. L'Hote, in "Comptes Rendus," says: "As to the inquiry if zinc free from any foreign metal decomposes water either on boiling or in presence of dilute sulphuric acid, experiment proves that such is not the case. Pure zinc heated with distilled water in a flask, so arranged as to receive the gases over mercury, gives off no hydrogen on prolonged boiling, nor is it attacked by dilute sulphuric acid. The presence of iron in the proportion of 3 to 5 in 100,000 enables it to decompose water. Traces of arsenic and antimony have the same effect."

On my return home, and having leisure to prosecute the inquiry, I find, on evaporating a portion of the water in question and testing it, there is decided evidence of the presence of zinc. Hence it will, I think, appear evident that the presence of zinc plates in iron boilers used for condensing water for human consumption is fraught with danger to the health, if not, indeed, to the life, of those consuming the water for any length of time. Although in the case of the ship in question, intended for the coasting trade of Australia, it is probable that condensed water will not often be used, and although unhappily the quality of the water obtainable at some of the ports on that coast is not of the best, and will not suffer from boiling before being drunk, yet the subject, embracing also the very general use of galvanised iron under similar circumstances, I think you will be prepared to admit, is well worthy the attention of those concerned, and, as in cases similar to the above, of investigation by the Board of Trade.

I am, Sir, yours faithfully,

JOHN WARD, M.D.,
Ex-Medical Officer of Health.

Sutton Coldfield, Birmingham,
April 12th, 1886.

## LAW AND LUNACY.

*To the Editor of* THE LANCET.

SIR,—As a forcible illustration of one of the social phases of the deleterious consequences arising from the recent prosecutions of medical practitioners for giving certificates of insanity, I venture to forward to you a few extracts from a letter my wife received from a lady friend this morning. They appear to me to be so brimful of materials for reflection, alike to doctors, lawyers, and the general public, that they ought to be made known. I give the extracts in the lady's own words, for although the language she employs is simply that of a friendly letter, it seems to me to be quite telling enough, and will possibly be all the more impressive by reason of its very simplicity. I suppress, of course, the name of the writer, and as the extracts from her letters are forwarded to you without her knowledge, I hold myself responsible for them. They are as follows:—

"My husband's illness from overwork has taken a very serious turn, after apparent complete restoration. He has some form of brain mischief which makes him believe that he is very rich, and he has been buying everything he fancies for a year past, including land, and entering into terrible expense connected with railway-making. He will take no advice, and I have been consulting doctors in vain for months, hoping to get help to protect him from those preying upon him. But, alas! from the state of the law and the fears medical men are in of the consequences, it has been all in vain, though they admit the need. All his property is involved now; our home is sold up, and our pretty things have all been ruthlessly squandered by a forced sale. I see no end of my troubles, for Mr. —— considers himself still as rich as ever, and is so angry at me for doubting it that I hardly dare go to him. At present I have no home to go to, except to one of his country farm-houses, where he had furnished a part for ourselves."

These extracts are, I think, sufficient to show how recent actions against alienists is beginning to react against the general public, and when viewed in association with Lord Shaftesbury's sad suicide prove that the present state of the Lunacy Law as regards the responsibilities of medical men in signing certificates requires immediate emendation.[1] For while Lord Shaftesbury destroyed his own life, here, in the above-mentioned case, the gentleman destroys the means not only of supporting his life, but that of his family. Every medical man knows how often a few months of well-regulated restraint will suffice to cure an attack of monomania, and how that the individual after recovery may enjoy many long years of comfort and happiness. He equally knows that it is exceedingly rare for any of these cases, except during the incubation period, to possess either sufficient mental power or moral strength to voluntarily place himself under restraint, while the medical treatment of monomania involves quite enough of anxiety without having the additional terrors of the law superadded to it. If Lord Shaftesbury's and the above-described case be not examples of true insanity, my notions of mental disease and moral responsibility, I fear, require important revision.

I am, Sir, faithfully yours,

GEORGE HARLEY, M.D.

Harley-street, Cavendish-square.

## THE PERILS OF SUBCUTANEOUS MEDICATION.

*To the Editor of* THE LANCET.

SIR,—Having just heard from Dehra-Dûn to the effect that my old friend and quondam companion in some Himalayan rambles, Frederick Wilson, Esq., better known as "Shikari" Wilson, died at Mussoorie in July, 1883, of what would appear to be an over-dose of morphia, subcutaneously injected, I wish to take this opportunity of calling attention to the subject, and of intimating at the same time that two such cases of this description have occurred within the sphere of my own individual cognisance. I am precluded by personal or professional reasons from entering into any details respecting these, and I merely alluded to them here to enable me to offer it as my opinion—an opinion which, as you, I think, know, is based on something better than books—that this form of poisonous drug administration is fraught with the greatest danger in that most weakening or worrying malady—frequently recurring or chronic, suppressed, or systemic—gout.

As regards the case of my poor friend, and making all due allowance for the feelings or the exaggeration of a son, the circumstances under which he succumbed are briefly as follows:—"He had just returned (says my informant) from Gungostre — the source of the Ganges—suffering, as usual, from his old enemy the gout. As the pain became intense, —— was called in, and he carelessly injected an overdose of morphia, for my poor father never recovered from the deep sleep it produced, but died about three hours after the injection." And had the Emperor Charles V. or the great Earl of Chatham, who were both undoubtedly victims to this disease, been similarly treated during any of their paroxysms, the history of the Spanish Armada or of the French fleet

[1] This necessity has already been represented in a letter signed "General Practitioner," published in THE LANCET of March 6th last.—ED. L.

under Conflans might have had to be written in characters different from those of Mottley and Carlyle. "A Yorkshireman from Wakefield, as Colonel Markham described him in his 'Shooting in the Himalayas' (p. 19), fortune in his early life led him to India (in the 11th Light Dragoons); his impaired health sent him to Landour, whence he took a journey in the hills. Returned to England, he was unable to forget the life he led in the Himalayas, which had for him an irresistible charm. Not being overburdened with money, he worked his passage out to Calcutta, and walked straight up to Meerut, a distance of 900 miles, in thirty days. From thence to the hills was an easy trip, where he has been a resident for several years," and where he recently died, as we have just seen. Similar testimony is borne to his capacity and courage, his courtesy and skill, by Mr. Dunlop, B.S.C., in his "Hunting in the Himalayas," as well as by the editor (said to be Mr. Hume) of that pleasant book, "A Summer Tour in the Himalayas," *passim;* and his name and fame were household words in all "shikari" (hunting or shooting) circles in that district. He was, in a word, one of those God Almighty's gentlemen of whom my great namesake used to say that "they carried the title deeds of their estates in the crowns of their hats." But Frederick Wilson carried something more than these in this receptacle. He carried brains and ability of a high order. He also carried in it such energy and honesty, pluck and perseverance, as no discouragement could suppress or opposition subdue, and the consequence is that he has left behind him a name that will not soon die out in those regions, and a heritage and an independence such as any family might be proud of. He showed me many kindnesses, for which I desire to offer, with your permission, these my best thanks, and to offer at the same time, if you will kindly so allow, this little memorial of our friendship as an R.I.P. for his tomb.

I am, Sir, your obedient servant,

Auriol-road, W., March 21st, 1886. WM. CURRAN.

## "THROMBOSIS OF THE CORONARY ARTERY DURING ETHER ANÆSTHESIA."

*To the Editor of* THE LANCET.

SIR,—The case related by Dr. Moxon in your impression of the 17th inst. is full of the greatest interest, not only to the physician and pathologist, but also to those who are in the habit of administering anæsthetics. The vivid picture with which we have been furnished can leave no doubt in our minds as to the proximate or *secondary* cause of death; but, with regard to the remote or *primary* cause, I would deferentially submit that the evidence is not sufficiently conclusive. The charge brought by Dr. Moxon against the anæsthetic agent is a grave one, and it is in the interests of this agent that I would ask to be permitted to say a few words.

Without wishing to doubt the accuracy of Dr. Moxon's conclusions with reference to the age of the thrombus he describes, I think he will admit that the chronic arteritis met with in the coronary artery might at any time have eventuated in thrombosis. It must be remembered that ether is frequently administered to patients whose arteries are atheromatous to an extreme degree, without any subsequent evidence of thrombosis having taken place during the administration. Surely, cerebral thrombosis and its consequences would be more often observed after ether anæsthesia if Dr. Moxon's explanation of his case be a true one. We should, indeed, expect such untoward results to follow chloroform narcosis in old people with comparative frequency were Dr. Moxon's theories correct; for the low arterial tension often observed under chloroform and the degenerated vascular system so common in old age would be conditions eminently suited for the formation of thrombi in the vessels. I would therefore ask: Might not the thrombosis have had an origin totally independent of the etherisation?

I venture to think that all our energies should be devoted towards restricting the use of chloroform as an anæsthetic, and towards insisting upon the advantages of ether for most cases in which general and prolonged anæsthesia is required. I therefore trust that Dr. Moxon will excuse my calling into question the explanations he has brought forward in reference to his interesting and instructive case.

I am, Sir, yours obediently,

Somerset-street, W., April 19th, 1886. FREDERIC HEWITT.

## DEATH FROM ETHER.

*To the Editor of* THE LANCET.

SIR,—In the very interesting account given by Dr. Moxon in your last issue of a case of death from thrombosis of a diseased coronary artery, the ultimate cause of death is attributed to the inhalation of ether for a small surgical operation three weeks previously. The sole grounds on which this statement is made appear to be that the thrombus seemed to be about three weeks old. One naturally wishes for further corroboration of this statement, as thrombosis is not generally considered to be caused by such agency. I have notes of every case of death which could in any way be attributed to the use of ether published during the past ten years, and I have before me as well a report by a committee of physicians appointed by the Boston (U.S.) Society for Medical Improvement, published in 1861, wherein are notes of forty-one cases in which death occurred within a week or two of ether inhalation. In none can I find any note of abnormal blood-clotting, and in many cases there is mention made of the great fluidity of the blood. Among the cases reported by the American committee are no less than three in which ether inhaled by unqualified persons for sport seems to have produced fatal meningitis within a few days. Cases of this kind are reported both from Rouen and Philadelphia.

A pathologist of Dr. Moxon's experience is hardly likely to have made so serious a charge against ether as an anæsthetic without due reason. May I ask him, through your columns, to refer me to any other cases where thrombosis seems to have been caused through the agency of an anæsthetic? I am, Sir, yours truly,

Leeds, April 20th, 1886. ERNEST H. JACOB, M.D.

## SANITARY LEGISLATION.

*To the Editor of* THE LANCET.

SIR,—Every year the need of further sanitary legislation is becoming more and more pressing, and, in the interest alike of the public health and a minimum of interference with individual freedom of action in sanitary matters, it behoves the members of those professions which are charged with the care of man's physical being and the construction of his dwelling-places to take the subject into serious consideration, in order not only that the necessary legislation may not be too long delayed, but that it may be shaped and directed by those having the greatest knowledge of the questions involved. Two of the chief things to be aimed at in future legislation are: (1) To simplify and bring into one measure the regulations relating to the powers and responsibilities of public authorities; and (2) to increase the responsibility of owners and occupiers in respect of the sanitary condition of their own buildings.

As a contribution towards the solution of the second point I send you the annexed draft Bill, which is now under consideration by a special committee appointed by the Executive Council of the Sanitary Assurance Association.

I am, Sir, yours truly,

MARK H. JUDGE, A.R.I.B.A.

Park-place Villas, W., April 19th, 1886.

## NORTHERN COUNTIES NOTES.

*(From our own Correspondent.)*

### SUNDERLAND CHILDREN'S HOSPITAL.

THE annual meeting of the Sunderland Children's Hospital was held last week when the twenty-second report was read, showing that during the past year the number of out-patients treated was 967, and the total number of consultations given was 3006, and 122 children had been treated as in-patients. The total number of patients treated during the year, including in- and out-patients, was 1227. It is stated in the newspaper report that there had been no death among the patients during the year, but probably this is a mistake, as it is not likely that over 1000 sick children could come under hospital observation without some fatality.

### "A PETRIFIED GIANT."

Under the above heading a paragraph appears in our local papers, giving a very circumstantial account of some petri-

fied human remains found at Consett, in the county of Durham, in a coal mine. One portion found is said to consist apparently of a part of a body, and the upper part of two legs of a "giant," and measure 7 ft. 1 in. in length, and are said to be evidently portions of a body measuring from 9 ft. to 10 ft. high. The petrified body measures from back to front 14 in., and in width 16 in., and was found in the coal 20 fathoms deep. There were also found at the same place pieces of stone which appear to be petrified fish. I give you the newspaper account, but there is no doubt that some vegetable petrifactions have been mistaken for human remains, for I believe that although remains of mammalia have been found in bogs in a petrified or semi-petrified condition, nothing higher than fishes and reptilia have so far been found in the coal measures. So that unless the skull of this "giant" can be produced, I would very much doubt the existence of human fossil remains at such a depth.

TYNE PORT SANITARY AUTHORITY.

At the last meeting of the Tyne Port Sanitary Authority it was stated that during the months of February and March 1976 visits had been paid to vessels by the inspector. The medical officer's (Mr. H. E. Armstrong) report stated that the principal case during the past three months was that of the s.s. *Nederland-en-Orange*, from Bombay with an Indian crew, three of whom died in this port from the effects of the severely cold weather, and three others were reported to have died at sea from the same cause. The vessel had an Indian medical man on board. Mr. Armstrong states that the warming of the between-decks by steam, and removal there of the crews—several of whom were suffering from the cold, and all of whom were exceedingly depressed and melancholy,—was advised, and at once carried out, after which the patients improved and the men regained their spirits. Two others of the crew suffered from illness afterwards, due to the previous cold, and were removed to the Newcastle Infirmary.

A NORTH TYNE CENTENARIAN.

Great interest is taken here in the serious illness of Mr. Joseph Saint of Chollerton, North Tyne. Mr. Saint's case is remarkable, but well authenticated as to longevity. He entered on his 103rd year on Feb. 21st, and was then in fair health, but the late severe weather has seriously lowered his vitality, and his medical man fears that his recovery is very doubtful.

DEATH OF MR. MANFORD OF NEWCASTLE.

I regret to close my letter by mentioning the death, on the 16th inst., of Mr. F. W. Manford, a well-known and respected general practitioner of this city. Mr. Manford was a native of Scotland, but had practised here for nearly forty years. He was a L.R.C.S., and F.R.C.S. and L.R.C.P. Edin. (exam.). Mr. Manford was naturally endowed with a very fine constitution, and was thus enabled to get through an amazing amount of work unaided, for, I believe, it was not until quite of late years that he needed any help in his practice; at last he was induced to take a partner; but it was understood that even before then he had made his fortune. He never had any appointments, always refusing offers of the kind, however tempting, saying that it was best for himself and for his patients that all his energy should be devoted to their care. The immediate cause of his death was, I understand, cardiac disease, for which he was attended by Dr. Philipson and his partner, Dr. Scotland. Mr. Manford, who was in his sixty-fourth year, leaves a widow and four children, and his death will be felt by a large circle of friends and patents.

Newcastle-on-Tyne, April 20th.

## ABERDEEN.

(*From our own Correspondent.*)

MEDICAL EXAMINATIONS AND GRADUATION.

THE winter session at Marischal College closed on March 26th. The "professional" examinations began on the Monday following and were finished on Tuesday of last week. The number of candidates presenting themselves for examination was much larger than usual, more especially for the final or "third professional," for which about eighty-five gave in their names. Of these, only thirty-seven satisfied the examiners, the others were rejected, having failed to pass in one or more subjects. The ceremony of publicly conferring the degrees, "the capping," took place on Saturday. Mr. John C. G. Duffus, M.A., and Mr. John D. Thomson, M.A., received their degrees in Medicine and Surgery, with highest academical honours, and Mr. James Galloway, M.A., Mr. W. Milligan, and Mr. James Murray, received their degrees with honourable distinction. Ten gentlemen were promoted to the degree of M.D., eighteen candidates passed the first division of the first professional examination, fifty were declared to have completed the first examination, and nineteen had passed the second.

GRADUATES' SUPPER.

The young graduates had the usual supper on the night previous to the graduation. Several of the professors and members of the medical staff of the Royal Infirmary and General Dispensary were present. Professor Smith Shand presided, and Dr. McKenzie Booth (in the absence of Dr. Angus Fraser) and Dr. Ruxton acted as croupiers.

APPOINTMENT TO THE CHAIR OF PHYSIOLOGY.

It is officially announced that Dr. John MacWilliam, Assistant Professor of Physiology in University College, London, has been appointed Professor of the Institutes of Medicine in the University of Aberdeen. This is an appointment that meets with approval everywhere for many reasons, but perhaps more particularly because while Dr. MacWilliam is a distinguished physiologist, he is also a graduate of the University; and in the past it has often been felt that sons of our *alma mater* were passed over for graduates of other universities, whose claims did not always seem sufficiently strong to form good grounds for the step taken. Dr. MacWilliam graduated in 1880, when he received the John Murray Medal and Scholarship as the most distinguished student of his year.

MEDICAL OFFICER OF HEALTH FOR THE CITY.

At their meeting on Monday, the Town Council unanimously elected Dr. Theodore Thomson medical officer of health for the city. Before proceeding to the election, a proposal to erase Professor Matthew Hay's name from the list of candidates, because he announced his intention of retaining his appointment as professor of medical jurisprudence in the University, was carried by a majority of three votes. One of the conditions as stated in the advertisement is that the medical officer must devote his whole time to the duties of the office. This Dr. Hay could not strictly do, but as his University duties occupy only one hour a day for fifty days in the year, he could have practically given his whole time to the sanitary department. There were ten candidates for the appointment, but Dr. Hay's name having been struck off the list, the result was a foregone conclusion. Dr. Thomson is at present assistant medical officer in the South-Eastern Fever and Small-pox Hospital, London.

THE FREE LIBRARY AND INFECTIOUS DISEASES.

The Public Health Committee had recently before them a report by the sanitary inspector bearing upon the question of the spread of infection by books borrowed from the public library. In his report the inspector suggests that "when patients suffering from infectious diseases are visited by the sanitary officers, inquiry should be made whether any member of the family or any person living in the house is supplied with books from the library; and if it be found that such is the case, the parties should be asked to send the books to the sanitary office for the purpose of being disinfected before being returned to the library." It is proposed also to supply the librarian with a list of the names of families where infectious disease is known to exist, so that he may be able to assist the sanitary department in checking any attempt to evade the law. The committee approved of the report, and authorised the inspector to carry out his suggestions, and send a copy of the report to the Library Committee, who might still further assist the sanitary department by passing a bye-law enacting that books be not lent out to families known to be suffering from infectious disease.

Aberdeen, April 20th.

A LETTER has been received from the Local Government Board approving of the amended plans submitted for the proposed infectious diseases hospital at Widnes. The building is greatly needed in the district, and it will now probably be commenced at once and pushed forward rapidly.

## PARIS.

*(From our own Correspondent.)*

### REPORT BY M. PASTEUR.

AT the meeting of the Academy of Sciences last week M. Pasteur read the following report of the results of his anti-rabic treatment at his laboratory in the Rue d'Ulm. "The number of persons so treated amounted up to the 12th inst. to 726, including those who are still undergoing treatment. Of this number there were 688 who were bitten by mad dogs and thirty-eight by wolves, the latter being all Russians. The patients belonging to the first category are, with the exception of the little girl Pelletier, who, it will be remembered, died after a few inoculations, all doing well. More than half of that number have passed the dangerous period. Of the thirty-eight Russians who have been treated and are still undergoing treatment, three have died rabic; the others are doing well, but it is impossible to foresee what may happen to them, as there exists a profound difference between the bites of dogs and those of wolves, the proportion of deaths caused by rabid wolves being at least 82 per cent." M. Pasteur then concluded his report in the following terms:—"The above facts demonstrate (1) that the duration of incubation of human rabies caused by the bite of a rabid wolf is often very short, very much shorter than rabies after the bite of a mad dog; (2) that the mortality after the bites of rabid wolves is considerable if we compare it with the effects from the bites of dogs. These two propositions may be sufficiently explained by the number, the depth, and the seat of the bites caused by the wolf, which so savagely attacks his victim, the attack being often on the head and face. The necropsy of the three Russians who died at the Hôtel Dieu, and the inoculation of rabbits, guinea-pigs, and dogs with the medulla oblongata of the first of the patients who died, prove that the virus of the wolf and that of the dog are sensibly of the same degree of virulence, and that the difference of the rabies of the wolf and that of the dog depends on the number and nature of the bites. These facts induced me to inquire whether, in the case of bites from rabid wolves, the method could not be usefully modified by inoculations in greater number and within a shorter time. The results will be eventually reported to the Academy. In any case, for the wolf in particular, it is good to submit the patient to the preventive treatment as soon as possible. The Russians of Smolensk were six days on their journey to Paris, and presented themselves at the laboratory fourteen or fifteen days after having been bitten. They might therefore have commenced the treatment eight days earlier, and one cannot say what might have been the influence of this modification for the three patients who have succumbed."

### THE DISPOSAL OF THE DEAD.

The subject of cremation has been recently discussed at the Chamber of Deputies, and it has been decided that the mode of disposing of the dead will be left optional to the friends of the departed unless special arrangements have been made during the lifetime of the latter. The arguments for and against incineration and inhumation I need not reproduce here, as nothing new was brought forward. I may, however, remark that in response to Bishop Freppel as to the impunity that criminals would enjoy if the bodies were subjected to incineration, M. Blatin, deputy, remarked that the examinations in cases of suspected poisoning could be more usefully carried out before incineration. Even after incineration there are poisons which could be found in the ashes.

### VINIC ALCOHOL.

The French Senate offers a prize of from 25,000 francs to 50,000 francs to any chemist who shall discover the best practical method for making researches with the view of ascertaining the toxic principles and impurities contained in "vinic alcohol."

I may mention again that the Hygienic Exhibition is to take place on Monday, May 3rd. Among the exhibitors are the Director of the Paris Municipal Laboratory and M. Pasteur.

Paris, April 20th.

## MEDICAL NOTES IN PARLIAMENT.

*Lunacy Acts Amendment Bill and the Burgh Police and Health (Scotland) Bill.*

IN the House of Lords on the 15th inst. these Bills were read a third time and passed.

*The Ventilation of the House.*

In the House of Commons on the 19th inst., in reply to Mr. Baumann, Sir H. Roscoe said that the Select Committee on the ventilation of the House had brought under the notice of the proper officer of Her Majesty's Board of Works the desirability of at once carrying out the temporary measures referred to in the interim report of the committee for effectually preventing the passage of sewer-air from the metropolitan main drains into the area of the Palace of Westminster. They had received the assurance of that officer that the proposed work, in his opinion, could be executed before the House re-assembled after the Easter recess, and there was every probability that the improvements would be completed by the time the House met again.

## Obituary.

### CHARLES BOLINGBROKE COOPER, L.R.C.P.L.

WIDE-SPREAD sorrow is felt in Liverpool on account of the death of Mr. Charles B. Cooper, who was quite recently promoted to the office of house-physician of the Liverpool Northern Hospital, having been previously assistant house-surgeon to that institution. The sympathy with his friends is heightened because his death is looked upon as being largely due to his devotion to his work. For some weeks past he had been suffering from crops of furunculi, and one or two of these on his neck had caused him much pain and annoyance. He had been recommended to take a holiday, but was unwilling to leave his work. On April 6th he became jaundiced; on the 8th his temperature ran up to 105°, and an erysipelatous rash appeared on the neck and shoulders, and he was slightly delirious. Two days later the jaundice had disappeared and the erysipelas seemed to be fading away; but on the 11th it appeared on the face, which next day was much swollen. On the 12th the swelling had increased, the colour of the rash was deeper and dusky, delirium returned, respiration and pulse became rapid, and other symptoms of general blood-poisoning appeared, and terminated fatally on the 14th inst. The deceased suffered four years ago from rheumatic fever, which left him affected with cardiac valvular disease, and this no doubt diminished his chances of recovery.

Mr. Cooper was a young man (aged twenty-four) of handsome appearance and of remarkably prepossessing manners, and his funeral was made the occasion of a display of respect which must have been very gratifying to his sorrowing relatives and friends. Previous to the conveyance of the body to the cemetery a service was held in the hospital chapel, and the chaplain, who officiated, in his address passed a high encomium upon the many praiseworthy features in the character of the deceased. The body was borne to the hearse by six quartermasters of the Beaver line of Canadian steamers, in whose ships the deceased had made several voyages as surgeon. At the cemetery a large number of medical and other friends had assembled, amongst whom were many of the physicians and surgeons of the Northern Hospital, Royal Infirmary, and other hospitals, the chairman and several members of the committee of the Northern Hospital, and a large number of nurses. The body was borne to the grave by two of his colleagues and four other friends, former fellow-students, now house-surgeons in the Liverpool hospitals. The coffin was literally buried in wreaths, sent by numerous friends, and laid on the coffin as it left the hospital by the nurses, under the superintendence of the matron, Miss Huguenin, who had herself officiated as a kind and indefatigable nurse during the last week of the deceased's illness.

VACCINATION GRANT.—Dr. Hodgson, of Workington, has received the Government grant for efficient vaccination in his district.

# Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 19th inst.:—

Barber, John, M.B. Durh., Ruth.
Fletcher, Arthur Augustus, M.B. Melb., Melbourne.
Fraser, Robert Nelson, M.D. Kingston, Westmeath, Ontario.
Halkyard, Alfred Lees, L.K.Q.C.P.I., Knatsford.
Hare, Arthur William, M.B. Edin., Edinburgh.
Herbert, Herbert, L.R.C.P. Lond., Leeds.
Kempster, Felix Charles, L.S.A., Battersea.
Nevins, Arthur Edward, L.R.C.P. Ed., Liverpool.
Packman, Alfred Charles Augustus, Sheffield.
Pain, Francis, L.S.A., Dulwich.
Richards, Thomas, Bristol.
Smith, Frederick Osborne, L.K.Q.C.P.I., Queen's-road.
Strickland, Percy Charles Hutchison, West Dulwich.

Admitted on the 20th inst.:—

Biggam, William, M.B. Durh., Sunderland.
Bonnefin, Fernand Henry, L.R.C.P. Lond., St. Paul's-road.
Clarke, James, Fernandez Howard, L.S.A., Gerald-street.
Coleclough, John Arthur, L.S.A., Holloway.
Fletcher, George Rory John, L.S.A., East Dulwich.
Green, Henry Lee, M.D. Penn., Muscatine.
Guthrie, Leonard George, L.S.A., Phillimore-gardens.
Lang, Walter Scott, M.B. Edin., Edinburgh.
Paterson, William Whiteside, M.B. Glasg., Ayr, N.B.
Rake, Herbert Vaughan, L.S.A., Fordinbridge.
Riley, Roland John, L.R.C.P. Ed., Bedworth.
Thomas, William Thelwall, M.B. Edin., Liverpool.
Tyndall, Francis, L.S.A., Liverpool.
Webster, George Alexander, Hobart, Tasmania.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At examinations recently held the following gentlemen were admitted Licentiates of the College:—

John A. Coen, Shuldham H. Dunlop, Martin Fitzgerald, Edward Garraway, Lawrence Geoghegan, Edward W. Hamilton, John C. Jellett, Peter McSwiney, Andrew E. Murphy, William J. Shee, Patrick Stephenson, Charles P. Tennant, Archibald McLeod, and Guy C. L'Estrange.

COLLEGE OF PHYSICIANS IN IRELAND.—At the April examinations the following obtained the licences in Medicine and Midwifery of the College:—

MEDICINE.—Edward George Browne, Clarence Edwin Lloyd Gilbert, Alexander Gordon, Charles William Graham, Henry Charles Groves, Andrew Harris, John Keany, Richard Robert Leeper, Frederic Mercer, Michael Joseph Ryan, Charles William Thompson, Joseph Alexander Tooner, Charles Henry Wild.

MIDWIFERY.—Edward George Browne, George Foott, Alexander Gordon, Andrew Harris, John Keany, Frederic Mercer, Michael Joseph Ryan, Joseph Alexander Tooner.

The undermentioned has been admitted a Member:—

James Charles Hardy Peacocke.

SOCIETY OF APOTHECARIES.—The following gentlemen passed the examination in the Science and Practice of Medicine, Surgery, and Midwifery, and received certificates to practise, on the 15th inst.:—

Baumgartner, Henry Spelman, Newcastle-on-Tyne.
Coleclough, John Arthur, Holloway.
Evans, Charles Silvester, Harbury-terrace, Fenterman-road.
Fletcher, Geo. Rory J., "Croome," Kelmore-grove, East Dulwich.
Guthrie, Leonard George, Phillimore-gardens.
Kempster, Felix Charles, Oak House, Bridge-road, Battersea.
Thomas, Thomas Nash, Lecka Sobra, Pembrokeshire.

A rich merchant, M. Chludow, has left more than £100,000 and a house to found a children's hospital in Moscow.

ON the 17th inst. a demonstration of friendly and trade societies was held in the East-end of London in aid of the funds of the proposed Cottage Hospital for West Ham.

SIR P. DUN'S HOSPITAL, DUBLIN.—The governors have received £326 towards the Fever Hospital Building Fund, and will commence its construction as soon as a sufficient amount has been obtained.

BELFAST MAIN DRAINAGE SCHEME.—This Bill will be considered in Committee after the Easter holidays, and it is believed that its progress so far as local bodies are concerned will not be much interfered with.

A LABOURER was fined 20*s.* and costs at Shrewsbury last week for having travelled in a public conveyance whilst suffering from small-pox. The defence was based on ignorance of the nature of the malady that had seized the defendant. A similar case was decided at Hartlepool on the 13th, in which a young man was fined 6*s.* 6*d.* and costs for exposing himself in public whilst labouring under small-pox.

GUY'S HOSPITAL.—The Michael Harris prize in Anatomy has been divided between Mr. A. Parkin, of Hightown, Yorkshire, and Mr. R. D. Mothersole, of Colchester. The Beaney Prize of 30 guineas in Pathology has been awarded to Mr. J. W. Washbourn, of Gloucester.

GRIMSBY HOSPITAL.—At the quarterly meeting of the Hospital Committee held recently, the treasurer reported the receipt of a bequest of £1000 free of legacy duty, and £40 as one year's interest thereon, under the will of Mr. John Vere, shipwright.

LIVERPOOL HOSPITAL SATURDAY FUND.—An address to the industrial population of the city has been issued by the Working Men's Committee of the Liverpool Hospital Saturday Fund, in the hope of stimulating interest in the important annual collections in aid of the local medical charities. The collection will this year be made on May 29th.

PRACTICAL ANATOMY AT OXFORD UNIVERSITY.—The guardians of the Reading Union, having been applied to by Dr. Burdon-Sanderson, Professor of Physiology at Oxford, that the bodies of unclaimed paupers might be handed over, under the provisions of the Anatomy Act, to the School of Anatomy at the University, as they have a dearth of subjects for the dissecting-room, have just declined the request by seven votes to six.

REFORMS IN THE DRIFFIELD UNION.—The guardians of the Driffield Union are about to introduce some sweeping reforms, upon the recommendation of the medical officer, who has made a special point of the prison-like restraint in which the paupers live, and in his report contrasted their gloomy lives with those passed by the inmates of Scotch workhouses. The children are to be provided with toys, have greater freedom, and an improved dietary, and there is to be throughout the establishment a less free use of lock and key.

THE POLLUTION OF THE RIVER LEA.—At the meeting of the Select Committee on this subject on the 16th inst., Mr. G. A. Eachus, engineer to the Edmonton Local Board of Health, was examined, and suggested as an immediate and temporary remedy for the existing pollution a thorough flushing of the river. The main want of the entire district was, in his opinion, an improvement of the subsoil drainage and the widening and deepening of the new cut. Mr. Croft, surveyor to the Tottenham Board of Health, also gave evidence, and the committee subsequently adjourned to the 14th prox.

THE PARKES MUSEUM.—An extraordinary general meeting of the members of this Museum was held on Friday, April 16th, Professor Berkeley Hill in the chair. The meeting was called to consider the desirability of amalgamating with the Sanitary Institute, and it was unanimously resolved, on the motion of Dr. G. V. Poore, seconded by Mr. Mark H. Judge, "That it is desirable that the objects for which the Parkes Museum and Sanitary Institute respectively were established should, if practicable, be prosecuted in the future by one corporate body." Further resolutions for bringing about this amalgamation and for applying for a Royal Charter were considered, but it was decided to adjourn the meeting in order that amendments to the resolutions might be sent to the whole of the members.

PRESENTATIONS.—On the 15th inst., Dr. Alfred Carpenter was presented by the Liberals of the Reigate division of the county of Surrey with a silver salver and dessert service in token of their appreciation of the services he rendered and the zeal and ability he displayed in contesting the division at the last election.—A very handsome illuminated address framed in oak has been presented by the Ancient Order of Foresters, Court 2385, to Mr. J. S. Hooker on his leaving Midhurst. The officers of the Midhurst Union Workhouse have presented to Mr. Hooker, on the same occasion, a handsome marble timepiece as a mark of esteem and respect.—A handsome silver inkstand has been presented to Mr. Jeffreys, of Chesterfield, in recognition of his generous efforts on behalf of Dr. Bradley. It bears the following inscription:—"Presented to Mr. Jeffreys by a number of the subscribers to the Bradley Fund, to record their high sense of his generous, self-denying, and successful exertions on behalf of Dr. Bradley. March, 1886." The list of contributors contains the names of many leading members of the profession in London and the provinces.

THE Russian Red Cross Society had treated more than 500 sick and wounded in their hospital in Sofia when the staff returned to Moscow.

DR. DYAKOVSKI, who has a medico-mechanical institution in St. Petersburg, has arranged to give the students of the Military Medical Academy free instruction in medical gymnastics and massage.

MEDICAL SCHOLARSHIPS.—At St. Thomas's Hospital Medical School the William Tite Scholarship of £30 has been awarded to Mr. Arthur Francis Stabb; the Peacock Scholarship of 40 guineas per annum for two years to Mr. Francis C. Abbott; the third year winter college prize of £20 to Mr. C. H. Eccles; the third year winter college prize of £15 to Mr. Edmund Hobhouse; the third year winter college prize of £10, in addition to second tenure of the Musgrave Scholarship of 40 guineas, to Mr. F. Fawssett; the second year winter college prize of £20 to Mr. Thomas P. Cowen; the second year winter college prize of £10 to Mr. H. G. Turney; the first year winter college prize of £20 to Mr. A. C. Lancester; and the first year winter college prize of £10 to Mr. C. R. Box. At the London Hospital Medical College the Hospital Scholarship, of the value of £20, for proficiency and zeal in clinical medicine, has been awarded to Mr. G. C. W. Wright; and that of £20 for proficiency and zeal in clinical surgery to Mr. H. G. Lys.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The quarterly court of the directors of this Society was held on April 14th; the President, Sir James Paget, in the chair. Two new members were elected; the deaths of five were reported, including that of Mr. Cooper Forster, a vice-president. Applications for relief were read from sixty widows, nine orphans, and three orphans on the Copeland Fund, and a sum of £1280 was recommended for distribution at the next court. One fresh application was read, and a grant at the rate of £30 per annum was made. The deaths of five widows were announced. A legacy of £50 from the executors of Miss Syne had been received. It was resolved to recommend for election, at the annual general meeting, as a vice-president, Sir William Bowman, F.R.S., in the place of Mr. Cooper Forster (deceased); and Messrs. T. H. Smith, Merriman, Vasey, Hutchinson, and Drs. Potter and Godson as directors in the place of the six senior, who retire. The annual general meeting was fixed to take place at 5 P.M. on May 9th.

BIRMINGHAM AND MIDLAND SKIN AND LOCK HOSPITAL.—The fifth annual meeting of the governors of this hospital was held on April 15th, in the board-room, Newhall-street. The Mayor (Alderman Martineau) presided. The report stated that during the past year 1142 patients were treated for skin disease, 810 for lock disease, and 45 for miscellaneous diseases. The attendances were 13,616. After referring with regret to the death of Dr. Russell and Dr. Heslop, the report showed that the necessity for larger premises became yearly more urgent, and that after careful consideration it was decided to build a new hospital with, provision for beds and baths, as originally intended. For this purpose a piece of land had been secured in the centre of the town. The cost of erecting and suitably furnishing the building was estimated at £5000; towards this sum legacies, donations, and the surplus of ordinary income amounted to £1200, so that a further sum of £3800 was needed.

THE LABOURERS ACT (IRELAND).—At an inquiry held by an inspector of the Local Government Board for Ireland last week at Oldcastle, county Meath, as to the schemes promoted by the guardians for the erection of upwards of 200 labourers' cottages, evidence was given showing the urgent necessity for their construction. The medical officers of the union stated that many of the existing labourers' houses were built of bog sods or of old timber, that the roofs were of very little use in keeping out the rain, that some of the houses had no windows whatever, and that others were in danger of falling on the occupants. In one instance, in which there were ten in family, the entire dwelling only measured four yards by two, and an ordinary person could not stand upright in it. One labourer, on being asked to describe his house, said he might as well live under a riddle, as he could count the stars through the roof! There is no doubt that if the Act is properly carried out it must prove of considerable benefit to a large number of the labouring classes.

THE PANAMA CANAL.—M. de Lesseps, who has recently returned from Panama, read a paper at a late meeting of the French Academy of Sciences giving an account of the progress of the great canal works. The sanitary condition of the workmen he described as "relatively good," contrary to the unfavourable prophecies which were freely uttered at the outset. In a hospital with 500 beds, M. de Lesseps found only 300 occupied.

# Medical Appointments.

*Intimations for this column must be sent* DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

LEACH, ALFRED, L.R.C.S., L.S.A.Lond., has been appointed Medical Adviser to the St. Gabriel's (Warwick-square) Maternity, vice Dr. J. H. Lavies, resigned.

ROKETT, A. W. CHALMERS, M.A., M.B.Cantab., has been appointed Medical Officer of Health for the Urban Sanitary Authority, Burnham, Somerset, vice D. A. Fraser, M.R.C.S., resigned.

TURNER, NATHANIEL H., L.R.C.P.Lond., M.R.C.S., &c., has been appointed Junior Resident Medical Officer to the Royal Free Hospital, vice H. W. Dodd, resigned.

WALKER, JANE H., L.K.Q.C.P.I., and L.M., has been appointed Resident Medical Officer to the Wirral Hospital and Dispensary for Sick Children, Birkenhead.

WHITFORD, WILLIAM, M.D., M.Ch.Q.U.I., has been appointed Medical Officer for the Fifth and Sixth District of the Parish of Liverpool.

# Births, Marriages, and Deaths.

## BIRTHS.

BEAUMONT.—On the 16th inst., at Gipsy-hill, Upper Norwood, S.E., the wife of Edgar Beaumont, L.R.C.P.Lond., M.R.C.S. (prematurely), of a daughter.

BUTCHER.—On the 15th inst., as Clydesdale Villa, Windsor, the wife of W. Deane Butcher, M.R.C.S., of a daughter (stillborn).

CROWTHER.—On the 8th inst., at Southampton-row, Russell-square, the wife of William Harding Crowther, L.F.P.S.Glas., L.S.A.Lond., of a son.

DUKE.—On the 14th inst., at The Glen, Lewisham, S.E., the wife of J. C. Duke, M.R.C.S., of a son.

EDWARDS.—On the 16th ult., at Tui Yüen, China, the wife of Henry Edwards, M.B., of a son.

GRAY.—On the 15th inst., at Albert-park, Melbourne, the wife of Charles E. Gray, B.A., M.D., M.Ch., Trinity College, Dublin (late Royal Navy), of a daughter.

MURRAY.—On the 14th inst., at Meadowside, Putney, the wife of G. Stanley Murray, M.D., of a daughter.

PEARCE.—On the 14th inst., at Lennox Villa, Hurstpierpoint, the wife of Henry Pearce, Surgeon, of a son.

RUSHWORTH.—On the 19th inst., at Langdale, Goldhurst-terrace, South Hampstead, the wife of Frank Rushworth, M.B., of a daughter.

SHADWELL.—On the 16th inst., at Lynhurst, Walthamstow, Essex, the wife of St. Clair B. Shadwell, M.R.C.S., L.R.C.P., of a daughter.

SMITH.—On the 15th inst., at Richmond-road, Barnsbury, N., the wife of Gilbert T. Smith, M.R.C.S., of a son.

## MARRIAGES.

COLQUHOUN—MACMILLAN.—On the 2nd ult., at St. Matthew's, Dunedin, New Zealand, by the Rev. F. G. M. Powell, Daniel Colquhoun, M.D.Lond., M.R.C.P.Lond. (late Senior Assistant Physician, Charing-cross Hospital), of High-street, Dunedin, to Christian Campbell Macmillan, daughter of Thomas Macmillan, of 31, Ridge-road, Hornsey.

JACKSON—NICOL.—On the 14th inst., at St. Luke's, Westbourne-park, John William Jackson, M.R.C.S., of West-green, Tottenham, to Jane Ann (Jennie), fourth surviving daughter of F. A. M. Nicol, of Leamington-road-villas, Westbourne-park, W.

RAW—LEVIN.—On the 10th inst., at St. Mary's, Stoke Newington, William Edmund St. Michael Raw, L.R.C.P., M.R.C.S., L.S.A.Lond., of Rutland House, Oakfield-road, Penge, youngest son of the late Joseph Raw, to Edith Julia, eldest daughter of Edward Henry Levin, of Amhurst-road, Stoke Newington.

STEAVENSON—TRAVERS.—On the 21st inst., at St. Marylebone Parish Church, William Edward Steavenson, M.D., Downing College, Cambridge, son of the late Rev. Joseph Steavenson, of Shantock Hall, Bovingdon, Herts, to Dorothea Lloyd, daughter of the late Benjamin Travers, F.R.C.S., of Dover-street, Piccadilly.

## DEATHS.

FOSBROKE.—On the 12th inst., at Bidford, George Haynes Fosbroke, M.R.C.S., L.S.A.Lond., in his 75th year.

ORWIN.—On the 16th inst., at Palace Chambers, Westminster (after a brief illness), Surgeon-Major Thomas William Orwin, A.M.D., eldest son of the late James Orwin, M.D., aged 47.

PENNINGTON.—On the 11th inst., at his residence, Devonshire-road, Prince's-park, Liverpool, Thos. Pennington, M.R.C.S., L.S.A.Lond., in his 79th year.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, April 21st, 1886.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Max. Temp. Shade. | Min. Temp | Rain fall. | Remarks at 8.30 a.m. |
|---|---|---|---|---|---|---|---|---|---|
| Apr. 15 | 30·27 | E. | 47 | 44 | 54 | 51 | 43 | ... | Hazy |
| ,, 16 | 30·21 | N.E. | 45 | 42 | 50 | 50 | 42 | ... | Cloudy |
| ,, 17 | 30·08 | E. | 42 | 40 | 64 | 48 | 40 | ·02 | Overcast |
| ,, 18 | 29·97 | E. | 46 | 44 | 65 | 51 | 41 | ·01 | Overcast |
| ,, 19 | 29·83 | E. | 48 | 45 | 91 | 65 | 41 | ·15 | Cloudy |
| ,, 20 | 29·81 | E. | 51 | 49 | 82 | 55 | 46 | ·02 | Overcast |
| ,, 21 | 29·99 | N.E. | 46 | 43 | ... | ... | 43 | ... | Cloudy |

# Notes, Short Comments, & Answers to Correspondents.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*All communications relating to the editorial business of the journal must be addressed "To the Editor."*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news-paragraphs should be marked.*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *to be addressed "To the Publisher."*

*We cannot undertake to return MSS. not used.*

### UNIVERSITY OF CAMBRIDGE.

A CORRESPONDENT writes:—"For the sake of those who are going to Cambridge next October, it may be worth while to point out that a college is not necessarily a desirable one for a medical student because there are already many other medical students there. Those colleges which have the greatest number of medical students offer no more advantages to them than do other colleges which have few. I should advise those intending to go up to get advice from some resident member of the University who is well up in all the arrangements of the University for medical students; for in this respect the college tutors are very often lamentably deficient, having had little or no experience of such matters. All the colleges are open to medical students. This does not seem to be generally known. Even King's College, which for centuries has been closed to all except Eton men, is now, and for a long time has been, open to all comers, and, thanks to healthy reformation, offers no small advantages to medical and natural science students."

*Puter* is referred to the Students' Number of THE LANCET, published Sept. 12th last.

*Mr. Cresswell.*—The usual fee for a *qualitative* analysis is two guineas.

### ACTION OF MUSCLE.

*To the Editor of* THE LANCET.

SIR,—In the report of a meeting of the Obstetrical Society of London on April 7th, published in your issue of April 17th, Dr. Horrocks is quoted as saying that "physiologists have formulated a law that whenever a muscle contracts, its opponent relaxes. This law is applicable to all muscle, voluntary or involuntary." In the same issue, Dr. Seymour Sharkey is reported (page 720) as saying, in his Gulstonian lectures, "Let me here refer to a class of spasmodic affections which appear to have the same explanation as tendon reflexes. Whether explicable as a reflex or purely local phenomenon, contraction of muscles occurs when they are put on the stretch by their antagonists; and this has the effect of controlling and steadying movements which might otherwise be jerky and uncertain." These two quotations appear to be contradictory. Is it not that sphincter muscles only are inhibited or actively dilate during contraction of their opponents, but that opposed muscles acting on joints contract together, though to an unequal degree?

I am, Sir, yours truly,

Ipswich, April 19th, 1886. JAS. NORMAN VOGAN.

### ARTIFICIAL COLOURING MATTERS IN WINE.

DR. C. BLAREZ sends to the Bordeaux Medical and Surgical Society, in support of his candidature, a paper embodying the results of various observations he has made on the subject of the noxious effects produced by drinking liquids coloured with certain colouring matters derived from coal. Many of the observations were made on persons who, being medical or pharmaceutical students, were excellent subjects for the purpose. A number of experiments were also made by artificially carrying on the process of digestion with and without the addition of the colouring matters in question. The conclusions arrived at were that sulpho-fuchsine, which seems to be used for the coloration of wine, though it can hardly be looked upon as a poison, is nevertheless capable of setting up a good deal of gastric disturbance, especially if taken habitually by persons whose digestive powers are not very strong, the symptoms produced being generally colic and diarrhœa. The author found that this substance, as well as "Bordeaux red" and safranine, distinctly retarded the peptonisation of muscular fibrine.

*House-Surgeon and Subscriber.*—The question is a delicate one. We see no reason why a house-surgeon should not in certain cases receive fees for services rendered, provided that it is no part of his agreement with the authorities of a public charity to devote his time entirely to their interest. When, however, the services are given in the hospital, clearly the institution, and not he, is the proper recipient of the fees. The only case, in our opinion, where a house-surgeon should take a fee is when he is called upon to give evidence at an inquest on a body brought in dead. Many hospital surgeons—honorary—refuse to give certificates of incapacity or injury where any litigation is involved.

*Messrs. Sampson Low and Co.*—The subject scarcely comes within our province.

### SOUTH CALIFORNIA AS A HEALTH RESORT IN PHTHISIS.

*To the Editor of* THE LANCET.

SIR,—In your admirable leader of March 13th, which is now before me, you omit any mention of Southern California as a health resort for phthisis. If you had a practical acquaintance with the foot hills of the Sierra Madre range, you would, I think, class them amongst the finest climates of the world. Physicians in the eastern States of America send dozens of phthisical patients here every autumn; and I should like to point out a few of the advantages of this district to my professional brethren. The air is very dry, which, I believe, is generally considered a great desideratum, and we have no fogs, though they are found in the valley. The elevation is about 1800 feet above sea level. The winter climate is very equable—the days are pleasant and generally sunny, and the nights cool and refreshing. In summer there are, perhaps, half a dozen nights when one can dispense with a blanket, but as a rule one or two are required. Out-door exercise is possible every day, except during rain; but the ground absorbs moisture so readily that in half an hour after a fall of rain patients can walk out without getting muddy. The sea is about thirty-five miles distant, and the breeze from that quarter tempers the heat of summer. There are not many days (perhaps four or five) when the thermometer ranges over 90° F., and the heat is not felt so much as in England at 75° F. I came here about eighteen months ago, after two attacks of hæmoptysis, with a bad history of phthisis. I lost my mother, two brothers, and a sister from that disease. I first went to Los Angeles city; but after a residence of three months there, I found I was not so well, my left lung showing signs of giving way. Upon the recommendation of one of the first physicians in the city, I came out to Sierra Madre, and have done well ever since. I have no cough, and sometimes drive thirty miles a day seeing patients. This settlement comprises about fifty families, and about forty of them include a member who came here for "lung trouble." If patients come here in an early stage of the malady, they are almost certain to be cured. But even in more advanced cases the lives of patients may be prolonged years, instead of weeks. Space will not allow me to enter into details of cases; but, if desirable, I can, on some future occasion, give notes of a dozen cases which have come under my notice. We have pure air, pure water, fine scenery, good and cheap food, with strawberries, green peas, &c., every month in the year, and roses and geraniums in blossom all the winter. We are only sixteen to eighteen days by steamer and Pullman car from London. I shall be glad to answer any queries. I am, Sir, yours truly,

F. C. GRESHAM, M.D., M.R.C.S.

Bromley Knoll, Sierra Madre, Los Angeles County, South California, March 31st, 1886.

### A FURTHER CURIOUS COINCIDENCE.

*To the Editor of* THE LANCET.

SIR,—There is an extraordinary sequel to "A Curious Coincidence," which you published last week. On April 15th—yet another week later—I obtained through a city music-seller two numbers of a musical cabinet, and both were defective. One contained a transposition of sixteen pages, and the other something wholly different from the table of contents printed on the cover. What does such a run of ill-luck in purchasing books portend? Will some modern representative of the genus astrologer or other occult science kindly inform me?—I am, Sir, yours truly,

April 16th, 1886. C. L.

### THE CONSUMPTION OF TOBACCO.

THE Board of Trade returns for the quarter ending March disclose the fact that the consumption of tobacco in the United Kingdom has declined by 340,277 pounds weight, as compared with the corresponding period of last year. For several years up to the present time there has been a gradual increase in the consumption, notwithstanding the commercial depression which has prevailed, more or less, for the past eight years.

*L.R.C.P.*—There is no one book which contains the whole history of vaccination and statistics. But much information will be found in Seaton's Handbook of Vaccination, and very full statistics in the Reports of the Medical Officer of the Local Government Board for the years 1881 and 1884; also in the report of the German Vaccination Commission. This is now out of print, but a digest will shortly appear in the next volume of the Transactions of the Epidemiological Society (Shaw and Sons).

*Mr. McGregor* (Atlanta).—The paper referred to has not been received.

## CHLOROFORM *v.* ETHER.

*To the Editor of* THE LANCET.

SIR,—The evidence in the Bartlett case has been of great interest to the public, lay and professional. Our knowledge of the action of such a universally employed drug as chloroform would seem from this case to be very limited, and the tendency of the evidence given must be to make the public more than ever prejudiced against that valuable anæsthetic. That ether ever will supersede chloroform in the general favour of practitioners may be doubted. It has every chance given it, for its praises are everywhere sounded to the detriment of chloroform; but I think if the collective opinion of the profession could be taken, chloroform would poll two votes to ether's one. Patients have often said to me, "Is not chloroform very dangerous? I thought everyone gave ether now-a-days." And that is exactly what a layman would conclude from reading this latest and most sensational trial. I was for a considerable time house-surgeon to a northern hospital where accidents were frequent, and I had a very fair experience in the use of anæsthetics. I can remember distinctly administering the A.C.E. mixture, which, after extended trial, I believe to be the safest and best, to a muscular young man, a collier, who came in with a fractured thigh. He was placed in the separate ward used for first admissions, and on proceeding to set the fracture I found him asleep, very soundly, evidently worn out with pain. I remarked to the nurse at the time that it would be a good case to test the possibility of giving an anæsthetic during sleep, and I applied the A.C.E. mixture as usual on a cone of spongio-piline. I withdrew it as he sniffed and seemed likely to wake, and then applied it again, as he relapsed into slumber, and although he turned over and was restless, he awoke not, and I put up the fracture in the usual way. I well remember his astonishment when, on recovering consciousness, he found his leg bandaged; he regarded the whole transaction as something "uncanny." The A.C.E. is decidedly more irritating to the air-passages than plain chloroform, and the inference would be that the latter might have been very easily given to the sleeper. I have on two or three occasions chloroformed children during sleep; but so, I suppose, has everyone who has had much use of anæsthetics. The A.C.E. seems very safe and handy in obstetric practice for several reasons.

I am, Sir, yours faithfully,

JOHN G. MARSHALL, M.B.Cantab.,
Hon. Surgeon, Mosley Convalescent Home.

St. Margaret's Bay, Dover, April 17th, 1886.

### THE REARING OF HAND-FED INFANTS.

DR. NEWHAM of Winslow has had printed on a handbill the letter from Dr. Walker of Spondon, near Derby, which appeared in our columns on Aug. 23rd of last year, on Dr. Frankland's method of preparing artificial human milk. Any effort to spread amongst mothers correct information on the subject of infant feeding is commendable.

*Dr. B. Ryley.*—We sympathise with our correspondent in the annoyance to which he has been put, but do not see that any good would result from publishing his letter.

*Mr. J. Harper's* paper is marked for early insertion.

## "HEALING BY FIRST INTENTION AFTER OPERATION FOR FISTULA."

*To the Editor of* THE LANCET.

SIR,—I have read the interesting annotation on the above subject in your last issue (p. 756), describing Dr. Ruidnovski's successful case. A few weeks ago an adult patient presented himself amongst the out-patients at the Western Hospital for Fistula, and he stated that he had recently been discharged from one of the large London hospitals (mentioning its name), where he had had a fistula "sewn up," but that he was just as bad now as before the operation. I examined him, and found that he was suffering from a complete anal fistula, with a long sinus, and as the suture marks were visible I concluded his tale was true. Knowing the surgeon by name who had performed the operation, I sent the patient back to him. I am, Sir, yours faithfully,

Bennett-street, St. James's, April 19th, 1886. SAMUEL BENTON.

### TYPE WRITING.

OUR attention has lately been directed to the advantages gained by medical men having lectures or papers to be read at meetings copied in type writing. Such copies are read with much ease and comfort, the clearness of the print saving much time and sparing to a considerable extent the eyesight. An office for such work in which ladies are employed has been established, and the quality of the work and the low price at which a single copy can be produced will doubtless induce considerable patronage to a venture which aims at providing what in these days is scarce enough—a suitable employment for ladies whose circumstances compel them to earn, wholly or in part, their living.

*Kentigern.*—1. Journal of Cutaneous and Venereal Diseases (New York: W. Wood); Annales de Dermatologie et de Syphilographie (Paris: Masson).—2. Dr. D. Powell's work, of which a third edition has just been published.

## THE USE OF THE ELECTRO-MAGNET IN SURGERY.

*To the Editor of* THE LANCET.

SIR,—Magneto-electricity has achieved such good results in the extraction of metallic substances from the eye, that I would beg to inquire if it has proved as successful elsewhere? I have to record a case of failure, where, in scrubbing a floor, a needle ran into the palm of the hand over the head of the third metacarpal bone, before last Christmas, and broke off. There were no indications of its exact whereabouts, and no suppuration; but some movements of the fingers being interfered with, Dr. H. R. South, R.N., very kindly took the patient on board H.M.S. *Vernon*, and having cut down over the site, applied an enormously powerful electro-magnet without withdrawing the needle, nor did the patient feel any prick or dragging, &c. However, it was there; for on April 3rd, some "soreness" having occurred on the back of the hand opposite the place of entry, I cut down (under Esmarch), and after some probing, felt, and removed, a portion of needle seven-eighths of an inch in length, black and smooth. I am, Sir, yours truly,

April 20th, 1886. W. M. H.

*B.*—The interest or good-will of a retiring practitioner is generally allowed to extend to his appointments as well as his private patients. He cannot, of course, promise the transfer of either, but it is good for what it is worth. How much it is worth depends on circumstances. Our correspondent is quite at liberty to try for a public appointment so vacated.

*Student* should apply to the secretary of the college mentioned.

## EDUCATION OF DEAF-MUTES.

*To the Editor of* THE LANCET.

SIR,—In your last issue you refer to the education of the blind in board schools, and, in doing so, express the hope that some day the instruction of deaf-mutes may be included within the widening range of the board school administration. You are evidently unaware that with many school boards this is already an accomplished fact. The School Board for London has classes for deaf-mutes in various parts of the metropolis under the able superintendence of the Rev. Wm. Stainer, whose staff is in part trained at the Fitzroy-square Training College for teachers of the deaf. School boards in the country have followed the example, and I continually receive applications for the supply of teachers for the opening of new classes.

I am, Sir, your obedient servant,

WILLIAM VAN PRAAGH.

The Association for the Oral Instruction of the Deaf and Dumb,
11, Fitzroy-square, W., April 19th, 1886.

*N. Y. Z.*—The paper by Dr. Austin Flint on the Elements of Prognosis in Bright's Disease was published in the "Journal of the American Medical Association" for January 9th of the present year.

## TENDER FEET.

*To the Editor of* THE LANCET.

SIR,—Perhaps some of your readers would be good enough to suggest a treatment for tender feet. For the last twenty years since my childhood, I have been almost entirely prevented from taking outdoor exercise from the pain consequent on walking; and nothing I have tried has been of any benefit. The apparent cause is thickening of the epithelium on the sole of the foot. I am, Sir, yours truly,

April 20th, 1886. X.

## "APOPLEXY WITH COMPLETE HEMIPLEGIA."

*To the Editor of* THE LANCET.

SIR,—In reference to my case of the above, I beg to say that I myself thought it might have been due to embolism; but there was no previous history to point to any cause of embolism, and the same bruit remained after the seizure. I regret I cannot tell Mr. Boys if the murmur exists at the present date. I am, Sir, yours truly,

Ashburton, Devon, April 13th, 1886. WILLIAM FRASER, M.B.

ERRATA.—In our report of the meeting of the Medical Society of London, p. 741, referring to Mr. Brudenell Carter's case of Mules's operation, we should have stated that an artificial vitreous body *was* employed.—In the first paragraph of the letter of our Manchester correspondent last week, the proportion of morphia in the dose of medicine was erroneously stated to be "18¾ grains." It should have been 1¾ grains.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Owen Pritchard, London; Dr. B. Yeo, London; Dr. T. Oliver, Newcastle-on-Tyne; Mr. G. Bischof, London; Mr. Blackett, London; Mr. Mark H. Judge, London; Dr. Newham, Winslow; Mr. Spencer Watson, London; Mr. Van Praagh, London; Dr. Hingston Fox, London; Mr. W. Fraser, Ashburton; Mr. Jamieson, Edinburgh; Mr. Stephen Paget, London; Dr. Philpots, Bournemouth; Messrs. Reynolds and Branson, Leeds; Mr. Bremner, Banff; Dr. Pasteur, London; Dr. R. Maguire, London; Dr. Charteris, Glasgow; Mr. Dunscombe, Liverpool; Mr. Hadley, Paris; Dr. Griffiths, London; Mr. R. W. Parker, London; Dr. Kreider, Springfield, U.S.A.; Mr. Stamford, Tunbridge Wells; Mr. S. Benton, London; Dr. Penhall, St. Leonards; Mr. F. Hewitt, London; Mr. J. G. Marshall, Dover; Dr. Gresham, Los Angeles; Dr. Oxley, Liverpool; Prof. Latham, Cambridge; Mr. L. Propert, London; Mr. Battiscombe, St. Mary; Messrs. Johnson and Co., Croydon; Mr. J. Allen, Bollington; Messrs. Zimmerman and Co., London; Mr. Vogan, Ipswich; Dr. Pringle, London; Mr. Small, Finsbury; Dr. Steavenson, London; Messrs. Midgley and Son, Manchester; Mr. Spanton, Hanley; Mr. Helton, Bury; Messrs. Doulton and Co., London; Dr. Fenwick, Finsbury; Messrs. Fowler and Co., London; Mr. Hawkings, London; Dr. Harley, London; Mr. Grove, Dorchester; Dr. Bateman, Birmingham; Mrs. Christmas, Eastbourne; Dr. Fox, Finsbury; Mr. Roberts, Penygroes; Dr. Armstrong, South Shields; Mr. Thin, Edinburgh; Mr. Enderlein, Manchester; Mr. Bindless, New Cross; Mr. Davidson, Norwich; Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. Morgan, Clevedon; Messrs. Lee and Martin, Birmingham; Madame Walzimkorm, Austria; Messrs. Lea and Nightingale, Liverpool; Messrs. Livingston, Edinburgh; Mr. T. Fletcher, Warrington; Mr. West, Stoke-on-Trent; Dr. E. H. Jacob, Leeds; Mr. C. H. Wells, London; Pater; X.; Alpha; Kentigern; C. L.; J. G. N., Glasgow; B. B., Manchester; Medicus, Sheffield; N.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Harding, Whittlesea; Mr. Domford, Ely; Mr. Jones, Chester; Mr. Salmond, Alfreton; Dr. Maclean, Swindon; Dr. Rawry, Dundee; Mr. Dick, Burton-on-Trent; Mr. Gray, Dalton-in-Furness; Mr. Goldie, Birmingham; Mr. Pennington, Liverpool; Mr. Berthier, Paris; Mr. Beasley, Warrington; Mr. Girling, Birmingham; Dr. Pooler, South Australia; Dr. Colmer, Yeovil; Mr. Weymouth, Kilburn; Messrs. Knight and Co., Rotherham; Mr. Massingham, London; Messrs. Iliffe and Co., Coventry; Mr. Marsh, Hindley; Mr. Oliver, Halifax; Mr. Moullin, London; Mr. Maw, Bradford; Mr. Guest, Darlington; Mr. Rowley, Barnsley; Mr. Rideal, London; Mr. Mills, Rochdale; Mr. Grant, Wolverhampton; Messrs. Lewis; Dr. Raymond, Sligo; Mr. Hunter, Aberdeen; Miss Minks, Chelsea; Mr. Evans, Oswestry; Mrs. Wheatley, Worthing; Mr. Lambert; Arnold, Edinburgh; L.R.C.S.I., Salford; Cymro; M. O.; Physician; L. M., Snaith; Spes; P. S., Stockton-on-Tees; Surgeon, Bradford; R. G.; Chir.; Alpha, Luton; M.B. Edinburgh; J. F., Leeds.

*The Freeman, Charity Record, Dietetic Reformer, Glasgow Herald, Church of England Temperance Chronicle, Newcastle Courant, Kidderminster Times, Tasmanian News, Cheshire County News, &c.*, have been received.

# Medical Diary for the ensuing Week.

## Monday, April 26.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesdays, same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

## Tuesday April 27.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Dr. Champneys: On the Development of Mammary Functions by the Skin of Lying-in Women.—Dr. Althaus: On Paraplegia from Pott's Disease, and its Treatment by the Actual Cautery.

## Wednesday, April 28.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesdays and Thursdays, 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Skin Department, Tuesdays and Fridays, 9.30 A.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; and on Friday, 2 P.M.; and Saturday, 1 P.M.

## Thursday, April 29.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

## Friday, April 30.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Timothy Holmes: A case illustrating the Diagnosis of Interstitial and Subpleural Laceration of the Lung.—Dr. Bristowe: A case of Gummata of the Liver.—Dr. Burnet: A case of Hydatids of the Liver opening into the Right Lung, Excavation of the whole of the Lower Lobe.—Dr. Percy Kidd: Aneurysm of the Aorta, Extravasation of Blood into the Posterior Mediastinum, compressing the Œsophagus and Vagus Nerves, and Rupture into the Abdominal Cavity, associated during life with frequent Vomiting.

## Saturday, May 1.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION OF GREAT BRITAIN.—1.30 P.M. Annual Meeting.


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